Funding for At-Risk Students in Indiana:

Issues and Recommendations

Robert K. Toutkoushian, Ph.D.

Draft: August 29, 2019

Table of Contents

# Executive Summary

Funding for At-Risk Students in Indiana:

Issues and Recommendations

# Overview

Dating back to the publication of the Coleman Report in 1966, educators and policymakers have focused attention on ways to improve student academic performance in K-12 schools. Considerable attention has been given to finding ways to not only raise performance, but reduce and hopefully eliminate achievement gaps between groups of students.

The socioeconomic status of students and communities became an important focus in this work. Data revealed that students from lower-SES backgrounds (referred to throughout this report as “at-risk students”) were less likely than their peers to succeed in K-12 education, as measured by things such as graduation rates, pass rates on state tests, and college-going rates. Likewise, school finance experts revealed that state systems for funding public K-12 education (“funding formulas”) tended to benefit districts in wealthier areas due to their partial reliance on property taxes to help fund education.[[1]](#footnote-1)

In response, states began to modify their funding formulas so as to provide additional monies to schools based on the number of at-risk students that they serve. The State of Indiana has been at the forefront of this equity movement. For almost 30 years, Indiana has given additional funding for at-risk students to schools, and modified its funding formula so that schools in lower-socioeconomic status (SES) areas of the state receive more per-student funding than do schools in higher-SES areas. The hope among state policymakers and educators is that the progressive nature of Indiana’s funding for K-12 education would allow school corporations to reduce and eventually eliminate the achievement gaps between students who are at-risk for academic failure and other students.

Despite its long history of at-risk funding, Indiana has yet to eliminate the achievement gaps between at-risk and other students. To address this problem, two questions must be answered: (1) How can a state accurately count the number of at-risk students?, and (2) How much additional funding per student should be given to eliminate the achievement gaps? Indiana and other states have struggled to find answers to these two questions. There are multiple ways in which states can identify and count at-risk students, each with its advantages and disadvantages. And data limitations make it extremely difficult for researchers to isolate exactly how much additional at-risk funding is needed, and how it should be used.

This report focuses on at-risk funding for public K-12 education, specifically in Indiana. The first section covers the different ways in which at-risk funding can be operationalized in school funding formulas. The second section focuses on how at-risk funding for education has evolved over time in Indiana, and evaluates the pros and cons of these different approaches. The third section looks in more detail at alternative ways of counting at-risk students. The fourth section reviews some of the research literature on studies relating to at-risk funding and student performance. The fourth section provides new analyses of the relationship between at-risk students, funding, and student performance in Indiana. Finally, the report concludes with a summary of main findings and recommendations.

# How At-Risk Funding Works

## Overview of At-Risk Funding

States rely on funding formulas to determine how much money to allocate to each school or district. The funding formulas vary considerably from state to state. Figure 1 illustrates the basic structure used by states for their funding formulas. The formula multiplies enrollments by a designated per-student dollar figure to obtain the base funding for student (referred to as “Basic Tuition Support” in Indiana). Total funding for school corporations is then obtained by adding supplemental funding for designated purposes (known as “Categorical Grants” in Indiana’s funding formula) to basic tuition support. States must decide on how to apportion funding between state and local sources by imposing a local property tax rate for schools. The balance of funding not paid by local sources is then paid by the state, and referred to as “State Tuition Support Funding” in Indiana. Although earlier versions of Indiana’s funding formula included both a local and state component, the current version does not use local funding for total tuition support.

**Figure 1: General Structure of State Funding Formulas for K-12 Education**

State funding formulas such as this were enacted to provide a clear rationale for how funding levels were determined for school corporations, and ensure that the amount of money available to schools was not affected by the socioeconomic status of their communities. Typically, communities in lower-SES areas would pay a smaller local share of total funding and hence receive larger shares of state funding than similarly-sized schools. In theory, under this approach total funding for schools and districts should be about the same and not related to the wealth of the community.

Funding formulas are rarely as simple as depicted in Figure 1 because states often modify them in different ways. States may impose a range of restrictions, hold harmless provisions, and other adjustments to the base level of funding that would be prescribed solely on enrollments. These modifications can introduce inequities into school funding formulas.[[2]](#footnote-2) Arguably the most common form of adjustment made to state funding formulas is to provide additional funding to schools for at-risk students. According to a report produced by the Education Commission of the States, 44 of the 50 states (plus DC) gave additional funding to school districts to help meet the educational needs of at-risk students in 2015.[[3]](#footnote-3)

## Approaches to Funding At-Risk Students

Additional funding for at-risk students can be operationalized in two different ways in state funding formulas. The first way is to provide additional weight per-student in the standard funding formula, where the weight corresponds to the percentage of at-risk students in the district. The second approach is to give districts supplemental funding in the form of a categorical grant. States are fairly evenly split with regard to which approach is taken to fund at-risk students. According to the ECS report, in 2015 there were 24 states (and DC) that used the weighted formula approach, and 20 states that used categorical funding for at-risk students.

To see how the weighted funding approach works, let *A* = per-student dollar appropriation in funding formula, *Ej* = total enrollments in j-th district, and *Ij* = an index derived from the percentage of at-risk students in the district. The Index ranges from a low of *Ij* = 1.00 when there are no at-risk students. In the weighted formula approach to funding at-risk students, weighted base funding (*Fj*) would equal the product of the per-student funding level, the at-risk index, and total enrollments:

$F\_{j}=A\*I\_{j}\*E\_{j}$ (1)

The additional funding for at-risk students (*Frj*) would then be determined by:[[4]](#footnote-4)

 $Fr\_{j}=A\*(I\_{j}-1)\*E\_{j}$ (2)

To illustrate with numbers, suppose that the state set the per-student funding level at $6,000, the district had 2,000 total students, and the at-risk index was equal to 1.20. Their weighted base funding would be ($6,000)(1.20)(2,000) = $14.4 million, which breaks down into $12 million in (unweighted) base funding and $2.4 million in additional funding for at-risk students.

The funding formula provides $A\*(I\_{j}-1)$ added funding for each student in the district regardless of whether or not the student is at-risk. Going back to this example, with *A* = $6,000 and *Ij* = 1.20, this means that the district receives an extra $1,200 for each of the 2,000 students due to the presence of at-risk students. This interpretation is appropriate because these additional education funds are most often used to help all students and not just at-risk students.

There are several limitations with the weighted formula approach that should be mentioned. First, the additional funding targeted for at-risk students cannot be easily separated from regular funding without additional calculations. This makes it difficult for school districts and policymakers to know how much extra funding is really being directed towards helping at-risk students. Second, at-risk funding could deviate from targeted levels due to other provisions and modifications in the funding formula that affect *Fj* and hence *Frj*. For example, if base funding is capped and the prescribed funding level exceeds the cap, then total funding and at-risk funding would both be adjusted downward. Finally, introducing at-risk funding as part of the regular formula restricts the added per-dollar funding for at-risk students to be the same as the parameter set for regular funding. In the example previously considered, the state would provide districts with $12,000 for each at-risk student and $6,000 for each non-at-risk student. If instead the state wanted to use another increment, it would have to apply a fractional weight to the estimated number of at-risk students when forming the index. This is the approach that Indiana used up through FY15, where the weight was approximately 0.40. This had the effect to reducing the additional funding for at-risk students by about 60%.

The second – and more straightforward -- way to provide additional funding for at-risk students is in the form of a categorical grant. The formula for this in its simplest form would provide a per-student allocation (*Ar*) for every at-risk student in the district, multiplied by the number of at-risk students (*Erj*):

$Fr\_{j}=Ar\*Er\_{j}$ (3)

Returning to the previous example, if the state set the additional funding per at-risk student at $3,000, and there were 400 at-risk students in the district, then the categorical grant received for at-risk students would be ($3,000)(400) = $1.2 million. In this way, the level of funding for at-risk students is transparent, is not affected by provisions and modifications to base funding, and gives states more flexibility in terms of the dollar increment used for at-risk students.

## What is an At-Risk Student?

Regardless of which approach is used by states to fund at-risk students, a key factor in at-risk funding is how the state identifies and counts at-risk students. There are a number of different ways to define “at-risk students” and estimate their numbers in each school. The label “at-risk student” is fairly general, and thus differences can arise as to which student characteristic is used to represent this construct.

There are three main ways in which states tend to identify at-risk students across the U.S.: (1) financial need, (2) low academic performance, and (3) limited proficiency in English. The first and most common method is to base the definition of at-risk students on family financial need. The presumption is that students from lower-income families have fewer resources at home to help them succeed academically, and thus are more at-risk for failure. Within this category, however, there are a number of possible ways to measure “lower-income” status, including:

* Participation or eligibility for the National School Lunch Program (i.e., receipt of free and/or reduced-price lunch)
* Receipt of free textbooks from the state
* Participation in the Temporary Assistance for Needy Families (TANF) program and/or the Supplemental Nutrition Assistance Program (SNAP)
* Placement in foster care
* Eligibility for Title I funding

The second way in which states identify at-risk students is through low academic performance. Students that have had academic difficulties at early stages of schooling are thought to be more at-risk for later difficulties and possible failure to succeed. Finally, other states designate those with limited proficiency in English as being more at-risk for academic failure, in that difficulty reading English presents additional hurdles for students in school that are often correlated with success.

Table 1 uses data from the ECS report to show the number of states that use each of these measures to identify at-risk students. Note that the sum exceeds the number of states because some states use multiple measures to identify at-risk students. By far, the most common approach used is to use the number of students on free or reduced-price lunch (30 states), followed by unsatisfactory academic performance (8 states), English language learners (7 states), Title I eligibility (5 states), TANF/SNAP (3 states), and foster youth (3 states). A range of other metrics are used in eight states, such as family history of school failure, habitual truancy, and students living in single-parent families. The preponderance of states define “at-risk” as coming from a lower-income family.

**Table 1: Method Used by States to Identify At-Risk Students**

|  |  |
| --- | --- |
| **Method** | **Number of States** |
| Participation in National School Lunch Program | 30 |
| Unsatisfactory academic performance | 8 |
| Limited proficiency in English | 7 |
| Receipt of Title I services | 5 |
| Participation in TANF / SNAP | 3 |
| Placement in foster youth care | 3 |
| Receipt of free textbooks | 1 |
| Other | 8 |

*Source*: Education Commission of the States (2016).

# Evolution of At-Risk Funding in Indiana

## Overview

Efforts to provide additional funding for at-risk students in Indiana can be traced back to the 1987 A+ school reform law (P.L. 390-1987, Section 26). The law was initiated in response to a concerns raised by the Lake Central School Corporation charging the State of Indiana with inequity in school funding. Part of the new law prescribed that the State develop the At-Risk Index, which would measure the share of at-risk students in each school corporation, and use the Index to direct more funding to school corporations with greater concentrations of at-risk students.

The At-Risk Index was incorporated into Indiana’s funding formula beginning in 1993, and was later replaced in 2003 by the Complexity Index, which is still in use today. Indiana relied on the “weighted formula” approach to provide extra funding for at-risk students from 1993 through 2013. Student counts in these years were multiplied by the At-Risk or Complexity Index and the designated per-student funding level to arrive at total funding that included additional funds for at-risk students. In 2014, the State modified its funding formula by replacing the weighted funding approach with categorical grant funding for at-risk students. The Complexity Grant calculates the additional funding for at-risk students by multiplying the Complexity Index by designated per-student dollar adjustment and the number of students in the school corporation. This categorical grant approach is also still in use today in Indiana.

## Indiana’s At-Risk and Complexity Indexes

Over time, Indiana has used a variety of different factors to measure the number of at-risk students in each district. The initial At-Risk Index, for example, was based on a weighted-average of the following three factors:

* The proportion of adults over 25 without a high school diploma (*NoHS*)
* The proportion of single-parent families (*OneP*)
* The proportion of families with dependent children under 18 and living below poverty income (*Pov*)

[Note: Not clear if these three metrics were measured at the corporation or county level] Because the At-Risk Index used multiple measures and the measures overlapped to some degree, simply summing the three percentages would have drastically overstated the number of at-risk students in schools. This was addressed in the At-Risk Index (ARI) by weighting each component:

$ARI\_{j}=1+a\_{1}NoHS\_{j}+a\_{2}OneP\_{j}+a\_{3}Pov\_{j}$ (4)

where *a1*, *a2*, and *a3* were weights assigned by the State to each of these factors. For example, if the State had set *a1* = 0.5, *a2* = 0.3 and *a3* = 0.2, then the ARI would be comprised of 50% of *NoHS*, 30% of *OneP*, and 20% of *Pov*. The ARI ranged from a low of 1.00 when *NoHS* = *OneP* = *Pov* = 0 (i.e., no at-risk students in the school corporation), and the Index increased as each of these “at-risk factors” increased. The weights, however, did not have to sum to one [Note: I need the school funding worksheets or other documents to determine the precise weights used in the ARI]

The original weights used in Indiana’s At-Risk Index were chosen based on a report by Gridley and Peters in which the authors measured the correlation between each factor and selected measures of school corporation performance.[[5]](#footnote-5) Roughly speaking, the ARI can be interpreted as the intended increase in funding due to the presence of at-risk students in the school corporation. For example, if *ARI* = 1.30 for a given school corporation, then the At-Risk Index suggests that funding to the school corporation should be 30% higher to help meet the additional education needs of its at-risk students.

There were several concerns with the At-Risk Index that eventually led to its replacement. First, data for the three components of the ARI were obtained from the U.S. Census, which meant that the at-risk counts for each school corporation could only be updated once every ten years. If a school corporation experienced a sizable increase in its at-risk population between Census years, then this change would not lead to more funding until the next Census data were released. Second, the Census data measured at-risk status at the county level and not the school or corporation level [Need to verify this is true]. Third, the ARI did not take into account other aspects of students that might also warrant increased funding, such as students with limited proficiency in English. Although the weights used by Indiana in forming the At-Risk Index were based on correlations with corporation performance, they were still somewhat arbitrary and might not reflect the true relative importance of each factor. Furthermore, it was not known whether the final value of the ARI could guarantee that, say, a 30% increase in funding would be sufficient to eliminate achievement gaps between students who were and were not at-risk for failure.

In 2003, the State of Indiana replaced the At-Risk Index with the Complexity Index (CI). The Complexity Index was similar to the ARI, but was based on five factors:

* The proportion of adults with less than a high school education (*NoHS*)
* The proportion of single-parent families (*OneP*)
* The proportion of families with dependent children and living in poverty (*Pov*)
* The proportion of pupils eligible for free or reduced-price lunch at school (*FRlunch*)
* The proportion of pupils with limited English proficiency (*LEP*)

Accordingly, the Complexity Index was calculated as follows:

$CI\_{j}=1+b\_{1}NoHS\_{j}+b\_{2}OneP\_{j}+b\_{3}Pov\_{j}+b\_{4}FRlunch\_{j}+b\_{5}LEP\_{j}$ (5)

where *b1* to *b5* were weights chosen by the State. [Note: Would be helpful to see old worksheets showing what weights were actually used]. Indiana also made additional increases in the CI ranging from 0.02 to 0.04 for school districts with Index values that exceeded 1.25. Although the CI still relied on the U.S. Census for three of the components of the Index, the two new components were measured annually at the corporation level and thus could change from year to year. The two new items would help adjust funding for corporations with rapidly-changing demographics on a more timely basis. However, the CI was still subject to the concern that the =relative importance of each factor, nor on how much additional funding was needed to improve outcomes for at-risk students. The fact that there was considerable overlap among the five components added to the difficulty in assigning correct weights to each factor; the percentages could not simply be summed to arrive at the percentage of at-risk students in each corporation. As with the At-Risk Index, the weights did not have to sum to one.

A third change in the Complexity Index occurred in 2009 when the CI was reduced to one factor: The percentage of students eligible for free or reduced-price lunch:

$CI\_{j}=1+c\_{1}FRlunch\_{j}$ (6)

The weight in the CI was defined as the ratio of the State-designated per-student at-risk funding divided by the State-designated per-student funding in the Basic Grant for non-at-risk students. This weight was usually much lower than 1.00 (approximately *c1* = 0.40), meaning that the added funding for at-risk students was less than the number of at-risk students. So of a school corporation has 50% of students on free or reduced-price lunch, their CI would equal 1.20 and as a result their basic grant would be 20% higher.

 The decision to change the CI emerged from interest at the state level in simplifying the funding formula. The change was also informed by work by the Center for Evaluation and Education Policy (CEEP) showing that almost all of the correlation between ISTEP+ pass rates and the Complexity Index was attributable to the proportion of students receiving free or reduced-price lunch.[[6]](#footnote-6) The report from CEEP further showed that there was a high degree of correlation among the five components of the CI, and therefore the additional factors did not add very much value or information to the Index in terms of explaining variability in student performance. Indiana also rescaled the Complexity Index by not adding 1.00 to the free lunch percentage, and modified the funding formula accordingly.

Two subsequent changes were made to the Complexity Index during the current decade (2011-20). State policymakers, noting a large increase in students receiving free lunch benefits, became concerned that the reported percentage of students on free or reduced price lunch may not accurately reflect the share of at-risk students. The concern was driven by the fact that families self-report income data to schools, who then determine eligibility with no mechanism in place for the State to verify that students receiving free or reduced-price lunch were in fact eligible for the subsidy. Furthermore, a provision was added that allowed school corporations with high poverty rates to provide all students with free school lunches regardless of family income.

As a result, in fiscal year 2015 the State attempted to address this issue by replacing the percentage of students on free or reduced-price lunch with the percentage of pupils receiving free textbooks (*FreeT*) in the CI:

$CI\_{j}=d\_{1}FreeT\_{j}$ (7)

The free textbook counts were obtained through the same applications used for the free lunch counts. This measure was seen by some to be advantageous to the percent of students on free or reduced-price lunch, however, because the State had the ability to audit a larger number of records to determine whether the free textbook counts were accurate. [Note: I need to see the Worksheet to determine what weight was applied to the free textbook count]

The last major change in the Complexity Index occurred in fiscal year 2016. Beginning in this year, the CI was based on the proportion of students who were enrolled in either the Supplemental Nutrition Assistance Program (SNAP), the Temporary Assistance for Needy Families program (TANF), or were receiving foster care assistance (FCare):

$CI\_{j}=SNAP\_{j}+TANF\_{j}+FCare\_{j}$ (8)

Weights were no longer needed in the construction of the CI with these new measures because the State could isolate how many students qualified for any of these three programs, and thus the sum of the three measures was interpreted as the proportion of at-risk students. The State also introduced an adjustment to the CI for school districts that had high proportions of English language learners (25% or more) and experienced large declines in the CI from the prior year (10% or more). This version of the Complexity Index is in use today.

## Evaluation of Alternative At-Risk Measures

The historical review of at-risk funding in Indiana highlights the importance of finding the most appropriate way of quantifying the at-risk student populations in each district. It is thus helpful to provide more details of the metrics that have been used by Indiana for this purpose.

### Metrics in the At-Risk Index

The three metrics used in Indiana’s At-Risk Index and later the Complexity Index were the percentage of families with children under 18 who are living at or below the poverty line, the percentage of single-parent families, and the percentage of adults 25 and older without a high school diploma. These measures were notable in that the cost to produce them was fairly low because the U.S. Census Bureau collected and assembled the percentages as part of their work. However, the big disadvantage to them is that they were only updated along with the Census every ten years. Accordingly, school corporations with rapidly-rising enrollments of at-risk students may have to wait a long time to receive supplemental funding to help meet their needs. Likewise, it could be argued that the percentage of students in single-parent families and without college-educated parents are not as closely aligned with lower-income status as was, say, the poverty rate. Third, these measures were calculated at the county level and not the school or corporation level, which introduces further noise into the measure. [Need to check whether these variables were calculated at the corporation or county levels] Finally, because there were multiple measures used in the ARI, the State had to assign weights to the different components when forming the ARI and CI. The State did not attempt to use these figures to derive an estimate of the number of at-risk students in each school corporation.

### Percent of Students on Free or Reduced-Price Lunch

The free and reduced price lunch counts are derived through the National School Lunch Program (NSLP) run by the federal government.[[7]](#footnote-7) The intent of the program is to provide free school lunches to students whose families qualify for the most stringent poverty level (130% of federal poverty level), and reduced-price meals for students at or below a higher threshold for poverty (185% of federal poverty level). Schools then receive funding from the NSLP to cover the cost of these meals. As noted earlier, free and/or reduced-price lunch counts are very popular across the U.S. as a means to identify at-risk students, and the counts are used for a number of other support programs in states.

 To receive free or reduced-price lunch, a student’s family must apply for the benefit. Schools are supposed to send forms home at the beginning of each year, and families who wish to receive this subsidy must complete the form and submit it to their school. The applications are reviewed by designated officials at the school or corporation level, who then determine whether to grant acceptance into the program based on their review. If a family already receives benefits from SNAP or TANF, they automatically qualify for free lunch benefits as well. Each school corporation tallies the number of students who qualify for the program and report these figures to the Indiana Department of Education on an annual basis.

 The free and reduce-price lunch count has several appealing features. The counts can be applied to the school level, and are updated on an annual basis. Accordingly, they would capture short-term changes in at-risk populations and make requisite changes in funding. Because almost all of the work on creating the metric is done by schools and their families, the cost to the State of Indiana for deriving this figure is relatively low. Likewise, the metric has uses beyond the Complexity Index, and is fairly well understood by policymakers in Indiana and across the US.

 At the same time, there are concerns with the free and reduced price lunch count that contributed to its abandonment by the State for its funding formula. The income figures supplied by families when applying for the program cannot be easily verified by schools or the State for accuracy. Families submit an application form and self-report the incomes for each family member. The values entered are not cross-checked with official documents (such as W-2 forms or tax returns), and federal law only allows the State to audit a small fraction (~3%) of applications. As a result, there is no way of knowing with certainty whether the information supplied by families on the application form is accurate, and thus whether the student should qualify for free or reduced price lunch. A related issue is that determination as to whether a student qualifies for the program is made by the school or corporation. Because education funding is tied to the number of students on free/reduced-price lunch, it has been asserted that some schools/corporations have an incentive to oversubscribe students into the program. However, there is no evidence that families and schools have behaved in this way. Nonetheless, these issues imply that the free and reduced-price lunch counts may be overstated to some extent, depending on how prevalent these issues are in Indiana.

 Another issue with free and reduced-price lunch counts relates to the application process for the program. The fact that families must apply for the benefit may deter some who would qualify for the program. Completing the application requires time and effort on the part of families. Some families may be reluctant to give detailed information about their earnings to school officials out of concerns for privacy. And some families may not apply for funding due to worries about the stigma attached to being labeled as “poor” or “lower income”. Taken together, these three issues likely lead to an understatement of the number of at-risk students in schools.

 Finally, another complication with free and reduced-price lunch counts is that the federal government enacted the Community Eligibility Provision (CEP), in which schools with high concentrations of poverty can provide free lunches to all students regardless of their family income status.[[8]](#footnote-8) The Food Research & Action Center (FRAC) determines eligibility for CEP based on whether a school has at least 40% at-risk students, as measured by the Identified Student Percentage (ISP). The ISP is calculated from the percentage of students in each school who can be verified to be at-risk through means other than a family application, such as participation in SNAP, TANF, Medicaid, enrolled in Head Start, or in foster care. In recognition of the fact that these counts likely understate the true poverty level, FRAC increases the ISP by 60% when determining the funding reimbursement for schools to account for other students who might qualify as being at-risk but do not receive any of these services.[[9]](#footnote-9) The CEP may not, however, have a large effect on the reported numbers of students receiving free lunch. The standard practice at school corporations on CEP is that they still count free lunches to align with the free textbook counts, and thus schools in CEP usually report free lunch percentages below 100% even though all students are getting free lunches.

The net effect of all of these issues on the free and reduced-price lunch count is unknown; it could be positive or negative, depending on their relative magnitudes. What can be said is that they provide reasons to argue that the counts have some degree of error in terms of measuring the extent of at-risk students in Indiana schools.

### Percent of Students on Free Textbooks

The process for calculating free textbook counts was very similar to that for the free lunch program. To receive free textbooks, a student’s family must apply and qualify for either free or reduced-price lunch. The State of Indiana would then provide funds to cover the cost of textbooks for these students. Although the set of students receiving free textbooks should be the same as the set of students receiving free or reduced-price lunch, one important difference is that there is no limit on the percentage of free textbook applications that could be audited by the State. Nonetheless, the free textbook counts still suffered from the other problems associated with the free lunch counts: (1) families may be reluctant to apply for the benefit due to the time, difficulty, and stigma attached to it, and (2) schools and corporations were responsible for processing applications and making decisions about eligibility. In addition, some schools provided free textbooks to all students regardless of whether they qualified for the State’s program. As a result, this metric was viewed by policymakers as being only slightly better than the free lunch count.

### Percent of Students in TANF, SNAP, or Foster Care

The current metric in use for counting at-risk students in Indiana is based on the number of students who receive services through either the Temporary Assistance for Needy Families (TANF) program, the Supplemental Nutrition Assistance Program (SNAP), or are in foster care. TANF is operated by the Office of Family Assistance through the U.S. Department of Health & Human Services, and provides block grants to states to help low-income families. In Indiana, the program is run through the Family and Social Service Administration.[[10]](#footnote-10) The Supplemental Nutrition Assistance Program is a federal program that provides food assistance to low-income families. The program is also administered through the Family and Social Service Administration in Indiana.[[11]](#footnote-11)

 The main advantage of this metric is that the counts can be determined and verified outside of the school corporation and thus provide assurances that these students are deemed at-risk. Families must apply for each of these programs and provide documentation to support their application. Applications are subject to more rigorous scrutiny than is true for the free lunch and free textbook programs. Accordingly, policymakers would have confidence that those students who take part in one of these two programs, or are in foster care, are appropriately categorized as being at-risk.

There are, however, concerns and issues with this metric as well. As with the free lunch and free textbook programs, students and their families must apply for acceptance into the program. Therefore, due to costs and the negative stigma with needs-based programs, some portion of students who would be eligible for one of the programs may not apply. The resulting counts of students therefore underestimate the number of at-risk students in the school by some unknown quantity.

Another concern with this metric is that the state government must account for the fact that the three programs may serve many of the same students. For example, a student may receive benefits from both SNAP and TANF. If this is true, then the state cannot simply add the counts together for the three programs to arrive at a reliable measure of the number of at-risk students in the school. To address this issue, the State of Indiana matches student records from IDOE to records from each of the three programs and then eliminates duplications. This matching process takes considerable time and effort. As a result, Indiana opted to only update the metric once every second year and thus reduce administrative costs. The matching process is not full proof; students who are in TANF or SNAP may not be counted if there are differences in their names between what is listed in IDOE records and what is listed in TANF/SNAP.

Properties of a Good At-Risk Metric

The discussion above points out that each of the metrics that have been used by the State of Indiana for counting at-risk students has its advantages and disadvantages. If one were to start from scratch and outline the properties of an ideal metric for this purpose, it should include the following:

1. Can capture changes in at-risk student counts in a timely manner. The metric should be something that can be updated on a frequent enough basis so that schools with changing at-risk student populations would receive funding to go along with population changes. Although updating counts every year would be the best situation, doing so every other year may also be acceptable when the costs of producing the counts are fairly high and annual changes in the metric are small.
2. Accurately measure the number of at-risk students. The metric should be a relatively accurate measurement of the true number of students who are at-risk in terms of financial need. Metrics that require families to apply for at-risk benefits tend to understate the true extent of at-risk needs if students are reluctant to self-identify as being at-risk and go through the effort to apply for the program. Likewise, metrics may overstate the true extent of at-risk students if there is an incentive to inflate the counts ad eligibility cannot be easily verified.
3. Minimal possibility of manipulation. The metric should be something that cannot be readily modified by those who have an incentive to receive benefits. This would apply to students and their families, as well as schools and corporations. Having a metric that is calculated by an outside agency, and can be easily checked for accuracy, would help alleviate this concern.
4. Relative simplicity. The simpler that a state’s process is for counting at-risk students, the easier it is for schools and policymakers to understand how the funding process works. All else equal, using multiple metrics for at-risk students makes the counting process, and funding formula, more difficult because students often overlap across metrics that could be used. Likewise, having a metric that can be interpreted as the proportion of at-risk students eliminates the need to apply an artificial weight to the variable in the forming of the Index and/or at-risk funding.
5. Low cost. Finally, the metric should have a relatively low cost to create, use and verify. Cost in this sense is a general term, encompassing the costs imposed on students and their families, schools and corporations, and the State.

On these grounds, none of the approaches used by Indiana over the years successfully met all five criteria. The free lunch count, free textbook count, and TANF / SNAP / Foster Care counts appear to be superior to the components in the At-Risk Index on all but the cost criteria. Within these three measures, however, it is likely the case that the TANF / SNAP / Foster Care counts understate the number of at-risk students, and the free lunch and textbook counts may also not be accurate representations of the true number of at-risk students in schools.

# Research on At-Risk Funding

The aforementioned discussion focused on how to obtain accurate and useful measures of the number of at-risk students in school. This is a necessary first step in funding the additional education needs of at-risk students in an optimal way. Once this has been accomplished, the next step is to determine how much additional funding is needed for them. This section of the report focuses on this issue. The issue itself can be broken down into two parts: (a) is there a positive connection between education spending and student performance, in particular for at-risk students, and if so how should it be used?, and (b) assuming that there is a positive connection, how much additional funding for at-risk students is needed?

At-risk funding for education is based on the presumption that there is a positive relationship between education spending and student performance. In theory, putting more resources into the provision of a good or service should lead to gains in the quantity and quality of the good or service in question. Accordingly, providing more funding for education should lead to gains in student performance because the money could be used for purposes such as reducing class sizes, raising teacher salaries, and implementing better support services for students.

There is a large literature on the general topic of “does money matter”. These studies addressed the issue of whether increases in funding to schools results in better outcomes for students. The literature can be traced back more than fifty years to the release of the Coleman Report, which raised concerns about student performance in the US and whether student performance is connected to financial resources.[[12]](#footnote-12) These concerns were reinforced by descriptive statistics showing that while education expenditures have increased over time, there has not been a proportional rise in student performance as measured by test scores and graduation rates.

Overall, the early literature was mixed with regard to this question. Some of the studies found no correlation between spending and performance, while others have countered with evidence that more spending leads to better outcomes for students. Of particular note is the work of Eric Hanushek, who is an economist who has conducted periodic reviews (meta analyses) of studies on this topic.[[13]](#footnote-13) He concluded that the majority of studies he reviewed failed to find evidence of a positive association between funding and education performance.

However, in more recent years the conclusions drawn by Coleman, Hanushek, and other critics of education spending have been called into question. It has been pointed out that many of the studies included in Hanushek’s reviews were of questionable quality, and often relied on statistical techniques that presented difficulties in isolating the impact of funding on student performance.[[14]](#footnote-14) Subsequent studies using better statistical methods have tended to draw the opposite conclusion: more money matters for education outcomes. A recent study by Jackson points out that much of the early work on this topic relied on descriptive statistics to reach conclusions about the effectiveness of funding on performance.[[15]](#footnote-15) In another study, Greenwald, Hedges, and Laine found that after they restricted the universe of studies considered by Hanushek to only those meeting designated quality standards, most of the remaining studies in fact found a positive and significant relationship between school spending and student outcomes.[[16]](#footnote-16)

The general consensus today is that there is in fact a positive relationship between the amount of funding given to school districts and the academic success of students. As noted by Jackson (2018, p.2), “To put it bluntly, any claim that there is little evidence of a statistical link between school spending and student outcomes is demonstrably false.” An excellent review of the more recent literature can be found in a report by Bruce Baker.[[17]](#footnote-17) Baker pointed out a number of issues that make it difficult to isolate the relationship between education funding and student performance. These issues include:

1. Finance data (and other data) is usually reported at the district level, even though variations may exist in how resources are distributed among schools;
2. Aggregation bias in data across schools and states, and reliance on descriptive statistics, may give misleading results as to the true relationship between student performance and school resources;
3. Adjusting for differences in the cost-of-living between areas;
4. Choosing the right functional form and statistical method to test the relationship between spending and performance;
5. Difficulty in statistically separating the effects of spending from socioeconomic factors;

The last issue noted above is of particular relevance for analyses of the situation in Indiana. Because the Complexity Index is derived through the at-risk student count, and the Complexity Index contributes to school funding, the at-risk student counts and school funding will by definition be very highly correlated. In short, school corporations with more at-risk students will receive more education funding. As Jackson (2018 p.3) notes, “…because school spending is a function of family background…it can be difficult to disentangle the two.” Furthermore, it builds in a negative association between funding and performance as long as performance gaps remain between at-risk and other students.

To overcome the limitations with many past studies, within the last 15 to 20 years researchers seeking to examine whether “money matters” have turned to statistical techniques that are tailored to identifying causality between spending and performance. In general, these techniques exploit (exogenous) changes in resources that are unrelated to student background and other factors to determine whether they lead to gains in student performance. The results from these studies have increasingly found that more spending leads to better student performance. For example, Kreisman and Steinberg found that an unanticipated increase in funding for some Texas schools led to an increase in state test scores and a reduction in dropouts. Other researchers examined states where school finance reforms led to differential changes in funding, and resulted in gains in student outcomes.[[18]](#footnote-18)

Despite the fact that the literature has generally concluded that money matters for education, there is less agreement as to how much money is needed. Many studies that found positive relationships between spending and performance still observe gaps in student success between at-risk and other students. This situation certainly applies to the State of Indiana, where despite a long history of supplemental funding for at-risk students, on average they tend to have lower test scores and graduate at lower rates than their non-at-risk peers.

An encouraging note, however, is that a number of studies within the “does money matter” literature found that the effects of funding were larger for at-risk students than for other students.

A related strand of school finance literature focused on whether there is an association between student outcomes and the way in which money is spent. Schools can use additional funding in a number of ways. Given that teacher compensation is a large share of total spending, it is not surprising that much of the attention in this strand has been directed towards teacher salaries and class size.

The results from this strand are mixed; however, a number of studies have found that student performance improves along with smaller class sizes or lower student-to-teacher ratios. This finding is particularly important for at-risk funding, since the money is often used to hire more teachers and teacher aides and thus provide more instructional support for these students.

 On the last topic, although the research is clear that there is a positive association between education spending and performance, there is no consensus on how much additional funding is needed to remove achievement gaps between at-risk and other students.

# Analysis of Student Performance and At-Risk Funding in Indiana

The final section of this report looks at the relationships between school funding, student performance, and alternative measures of at-risk students in the State of Indiana. Two datasets were created for this purpose. The first dataset consists of school-level information on ISTEP+ pass rates by at-risk status, and selected factors for the year FY18. The data were obtained from the Indiana Department of Education website. The second dataset includes information at the corporation level on K-12 funding, measures of at-risk students, and selected other factors for the years FY10 to FY18. The data for the second study were obtained from a request for information from the Indiana Department of Education.

## Study 1: School-Level Analysis

The school-level analysis focused on the relationships between alternative measures of at-risk students and the percentage of students in each school passing both the ISTEP+ Math and English assessments. Table 3 provides information on the variables used in this study. Some factors, such as Complexity Index funding, were only available at the corporation level. Brackets indicate whether the variable is measured at the school or corporation level:

**Table 3: Variables Used in School-Level Study**

|  |  |
| --- | --- |
| **Variable** | **Definition** |
| ISTEP+ Pass Rate | Percent of students passing both the math and ELA portions of ISTEP+ [School] |
| Gap in ISTEP+ Pass Rates | Difference in the average ISTEP+ pass rates for students on paid versus free/reduced price lunch [School] |
| Pct Free or Reduced Lunch | Percent of students receiving free or reduced-price meals [School] |
| Pct Free Textbooks | Percent of students receiving free textbooks [Corporation] |
| Pct SNAP/TANF/Foster | Percent of students on either SNAP, TANF, and/or receiving foster care services in FY17 [Corporation] |
| Pct English Learners | Percent of students who are English-language learners [Corporation] |
| Pct White | Percent of students who are White [School] |
| Complexity Grant / Student | Complexity Grant funding per student [Corporation] |
| Tuition Support Funding / Student | Tuition Support funding per student (Basic + Categorical grants) [Corporation] |
| Enrollment (100s) | Enrollments in 100s [School] |

Table 4 provides descriptive statistics for the variables used in this study:

**Table 4: Descriptive Statistics -- School Level Analysis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Mean | Std Dev | Minimum | Maximum |
| ISTEP+ Pass Rate | 47.10 | 17.74 | 0.00 | 91.58 |
| Gap in ISTEP+ Pass Rates | 20.68 | 10.31 | -16.24 | 58.06 |
| Pct Free or Reduced Lunch | 51.01 | 20.49 | 2.83 | 96.44 |
| Pct Free Textbooks | 48.10 | 16.65 | 5.12 | 90.00 |
| Pct SNAP/TANF/Foster | 21.01 | 11.57 | 1.18 | 61.66 |
| Pct English Learners | 4.91 | 5.87 | 0.06 | 25.96 |
| Pct White | 72.14 | 26.50 | 0.21 | 100.00 |
| Complexity Grant / Student | 744.80 | 408.54 | 41.76 | 2182.15 |
| Tuition Support Funding / Student | 6722.72 | 447.58 | 5911.32 | 8169.00 |
| Enrollment (100s) | 5.87 | 4.31 | 0.76 | 50.60 |

*Notes*: Data includes information on 1,653 public schools in Indiana for FY18.

The average ISTEP+ pass rate for schools across all levels was 47.1%, with values ranging from 0% to 91%. The average gap in pass rates between students on paid versus free/reduced price lunch was 20.7%, with considerable variation across schools. The values for percent of students on free/reduced lunch and free textbooks were very similar (means of 51% and 48% respectively), which is not surprising given that free textbook eligibility is derived through the free/reduced price lunch eligibility. The percent of students on either SNAP / TANF / Foster Care averaged 21% across schools, suggesting a much lower level of at-risk students than were derived through the free lunch program counts. Complexity Grant funding per student in FY18 averaged $745, which is about 11% of total Tuition Support funding (mean = $6,723).

Table 5 looks at the correlations between ISTEP+ pass rates, measures of at-risk students, and selected other variables. Several interesting observations arise from these correlations. First, schools with higher average ISTEP+ pass rates tend to have larger gaps between students on paid versus free lunch. The ISTEP+ pass rates are negatively associated with each of the three at-risk measures, with the correlations being very similar across them (ranging from -0.60 to -0.63). Not surprisingly, the three at-risk measures are very highly correlated with each other (0.77 to 0.84), suggesting that they would give rise to similar, although not identical, rankings of schools based on at-risk concentrations of students. Even though the Complexity Index (and hence the Complexity Grant) were constructed from the percent of students on SNAP / TANF / Foster Care, the CI was still highly correlated with the other two measures of at-risk students. Finally, it is important to note that schools with higher concentrations of at-risk students, regardless of the metric used, tend to have smaller gaps in average ISTEP+ pass rates between students on free and paid lunch. This is encouraging because one of the purposes of providing Complexity Grant funding to schools is to reduce the achievement gaps by socioeconomic status.

**Table 5: Correlation Matrix between ISTEP+ Pass Rates and At-Risk Measures**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Pass Rate | Gap in Pass Rate | Pct Free Lunch | Pct Free Textbook | Pct SNAP |
| Pass Rate | ----- | ----- | ----- | ----- | ----- |
| Gap in Pass Rate | 0.33 | ----- | ----- | ----- | ----- |
| Pct Free Lunch | -0.63 | -0.33 | ----- | ----- | ----- |
| Pct Free Textbook | -0.60 | -0.30 | 0.84 | ----- | ----- |
| Pct SNAP | -0.62 | -0.37 | 0.77 | 0.86 | ----- |
| Complexity Grant | -0.62 | -0.37 | 0.77 | 0.86 | 1.00 |

Another way to view the relationships among alternative metrics for at-risk students is through scatterplots. Figure 2 shows the relationship between the measures of the percentage of students on free or reduced-price lunch (vertical axis) and the percentage of students on SNAP, TANF, or foster care:

**Figure 2: Scatterplot of PctFR and PctSNAP**



Figure 3 shows the relationship between Complexity grant funding per student and (a) PctSNAP and (b) PctTb. Not surprisingly, the graph on the left is nearly a straight line because the variable PctSNAP was used to compute the Complexity Grant. The graph on the right, however, shows that the relationship is not very different when the free textbook percentages were used instead. Therefore, the free textbook (and hence free lunch) counts still play a large role in determining additional funding for at-risk students in Indiana, even though they are no longer used to form the Complexity Index.

**Figure 3: Scatterplots of Complexity Grant per Student and PctSNAP and PctTb**

 

Table 6 presents results from multiple regression models showing how measures of at-risk students, as well as selected factors, are related to the ISTEP+ pass rates in Indiana’s schools in FY18. The regression models were of the following form:

$Y\_{ij}=α+β\_{1}E\_{i}+β\_{2}E\_{i}^{2}+β\_{3}PctELL\_{j}+β\_{4}PctW\_{i}+δ\_{1}PctFL\_{i}+ε\_{i}$ (9.1)

$Y\_{ij}=α+β\_{1}E\_{i}+β\_{2}E\_{i}^{2}+β\_{3}PctELL\_{j}+β\_{4}PctW\_{i}+δ\_{2}PctTb\_{j}+ε\_{i}$ (9.2)

$Y\_{ij}=α+β\_{1}E\_{i}+β\_{2}E\_{i}^{2}+β\_{3}PctELL\_{j}+β\_{4}PctW\_{i}+δ\_{3}PctSNAP\_{j}+ε\_{i}$ (9.3)

where Yij = ISTEP+ pass rate in the i-th school and j-th corporation, Ei = school enrollments, PctELLj percent English language learners in j-th corporation, PctWi = percent students in school who are White, PctFLi = percent students in school on free or reduced price lunch, PctTbj = percent of students in j-th corporation receiving free textbooks, and PctSNAPj = percent of students in j-th corporation on either SNAP, TANF, or in foster care. The key parameters of interest in these models are the coefficients δ1, δ2, and δ1, which show the relationship between the percentage of at-risk students using each metric and the average ISTEP+ pass rates. If these coefficients are negative and statistically significant, then it suggests that there is still a relationship between the poverty status of schools and one key measure of student success.

 Collectively, the results are fairly similar across all three models, with the variables accounting for 42% to 46% of the variation in ISTEP+ pass rates across schools. In each model, there is a negative and statistically significant relationship between the level of at-risk students in schools / corporations and the average ISTEP+ pass rates. The coefficient for the variable PctFL in the first column (δ1 = -0.554) suggests that for every ten percentage point increase in students on free or reduced-price lunch, the average ISTEP+ pass rate fall by about 5.5 percentage points. The result was very similar for the measure PctFT (δ2 = -0.571), even though this variable was measured at the corporation and not the school level. The association was largest when the percent of students on SNAP / TANF / Foster care was used to represent at-risk students. However, the size of the coefficient was likely attributable to the smaller range of values for this metric relative to the free lunch / textbook counts. The main takeaway is that regardless of how at-risk students were measured, the evidence shows that schools with higher concentrations of at-risk students have lower average pass rates in the ISTEP+ assessment. Of the remaining factors, the negative coefficients for Enrollment show that holding at-risk status constant, larger schools have lower ISEP+ pass rates. The only exception to this was when free lunch status was used to represent at-risk students, which is attributed to some very large (urban) schools having higher free lunch counts due to providing free lunch to almost all students.

**Table 6: Determinants of State Pass Rates -- School Level Analysis**

|  |  |
| --- | --- |
|  | *Measure of At-Risk Students:* |
| Variable | Free Lunch | Free Textbooks | SNAP/TANF/Foster |
| Enrollment (100s) | -1.429\*\*\* | -0.713\* | -0.810\*\*\* |
|  | (0.282) | (0.296) | (0.229) |
|  |  |  |  |
| Squared Enrollments | 0.022\*\* | 0.007 | 0.010 |
|  | (0.007) | (0.007) | (0.006) |
|  |  |  |  |
| Pct English Language Learners | 0.229 | 0.449\* | 0.022 |
|  | (0.185) | (0.184) | (0.175) |
|  |  |  |  |
| Pct White | 0.067 | 0.177\*\* | 0.060 |
|  | (0.059) | (0.066) | (0.056) |
|  |  |  |  |
| Pct Free or Reduced Lunch | -0.554\*\*\* | ----- | ----- |
|  | (0.043) |  |  |
|  |  |  |  |
| Pct Free Textbooks | ----- | -0.571\*\*\* | ----- |
|  |  | (0.058) |  |
|  |  |  |  |
| Pct SNAP/TANF/Foster | ----- | ----- | -0.887\*\*\* |
|  |  |  | (0.089) |
|  |  |  |  |
| Constant | 76.914\*\*\* | 63.749\*\*\* | 65.811\*\*\* |
|  | (7.457) | (8.472) | (6.768) |
| Sample Size | 1600 | 1598 | 1600 |
| R-Squared | 0.46 | 0.43 | 0.42 |

*Notes*: Data are for the FY18 year. Dependent variable is the percentage of students passing both the Math and ELA portions of ISTEP+. Standard errors in parentheses. + p<.10, \* p<.05, \*\* p<.01, \*\*\* p<.001

 Finally, in Table 7 the regression analysis is repeated except that the dependent variable of interest is the gap in average ISTEP+ pass rates between students on paid versus free lunch. The models are of the form:

$Z\_{ij}=α+β\_{1}E\_{i}+β\_{2}E\_{i}^{2}+β\_{3}PctELL\_{j}+β\_{4}PctW\_{i}+δ\_{1}PctFL\_{i}+ε\_{i}$ (10.1)

$Z\_{ij}=α+β\_{1}E\_{i}+β\_{2}E\_{i}^{2}+β\_{3}PctELL\_{j}+β\_{4}PctW\_{i}+δ\_{2}PctTb\_{j}+ε\_{i}$ (10.2)

$Z\_{ij}=α+β\_{1}E\_{i}+β\_{2}E\_{i}^{2}+β\_{3}PctELL\_{j}+β\_{4}PctW\_{i}+δ\_{3}PctSNAP\_{j}+ε\_{i}$ (10.3)

where Zij = average ISTEP+ pass rate for students on paid lunch minus average pass rate for students on free lunch, and all other variables are defined as before.

**Table 7: Determinants of Gap in State Pass Rates -- School Level Analysis**

|  |  |
| --- | --- |
|  | *Measure of At-Risk Students*: |
| Variable | Free Lunch | Free Textbooks | SNAP/TANF/Foster |
| Enrollment (100s) | 0.535\*\* | 0.613\*\*\* | 0.552\*\*\* |
|  | (0.165) | (0.176) | (0.140) |
|  |  |  |  |
| Squared Enrollments | -0.008\* | -0.010\* | -0.009\* |
|  | (0.004) | (0.004) | (0.004) |
|  |  |  |  |
| Pct English Language Learners | 0.160+ | 0.189+ | 0.121 |
|  | (0.095) | (0.100) | (0.080) |
|  |  |  |  |
| Pct White | 0.140\*\*\* | 0.151\*\*\* | 0.115\*\*\* |
|  | (0.031) | (0.033) | (0.022) |
|  |  |  |  |
| Pct Free or Reduced Lunch | -0.068\*\* | ----- | ----- |
|  | (0.022) |  |  |
|  |  |  |  |
| Pct Free Textbooks | ----- | -0.078\* | ----- |
|  |  | (0.033) |  |
|  |  |  |  |
| Pct SNAP/TANF/Foster | ----- | ----- | -0.184\*\*\* |
|  |  |  | (0.047) |
|  |  |  |  |
| Constant | 10.653\*\* | 9.709\* | 12.999\*\*\* |
|  | (3.512) | (4.179) | (2.216) |
| Sample Size | 1600 | 1598 | 1600 |
| R-Squared | 0.17 | 0.18 | 0.19 |

*Notes*: Data are for the FY18 year. Dependent variable is the percentage of students passing both the Math and ELA portions of ISTEP+. Standard errors in parentheses. + p<.10, \* p<.05, \*\* p<.01, \*\*\* p<.001

 Collectively, the variables in the model account for 17% to 19% of differences in the achievement gaps between paid and free lunch students. The results for the enrollment variables suggest that mid-size schools have the highest gaps in results, and the results for the variable Pct White show that schools with more White students tend to have higher gaps in achievement. An encouraging finding, however, is that after taking into account a school’s size and concentration of White and English language learner students, there is a strong, negative association between at-risk students and the achievement gap. This means that schools with more at-risk students tend to have smaller differences in ISTEP+ pass rates between students on paid and free lunch. Because school corporations receive more funding from the Complexity Grant as the concentration of at-risk students rises, it also suggests that the additional funding from the State is helping to reduce the achievement gap between students from lower-income and other families.

## Study 2: Corporation-Level Analysis

The second study focuses on data at the school corporation level for the years FY10 through FY19. The data for this study were provided by the Indiana Department of Education. Table 8 provides information on how the Complexity Index and At-Risk funding changed over this 10-year period:

**Table 8: Changes in Indiana’s Complexity Index, FY10 to FY19**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fiscal Year | Mechanism for A-Risk Funding | Components in Complexity Index | Weights for CI Components | Other Adjustments |
| FY10 | Weighed student funding | Free or reduced price lunch | Approx. 0.40 | Augmentation for high free /reduced lunch percent |
| FY11 | Weighed student funding | Free or reduced price lunch | Approx. 0.40 | Augmentation for high free / reduced lunch percent |
| FY12 | Weighed student funding | Free or reduced price lunch | Approx. 0.40 | Augmentation for high free / reduced lunch percent |
| FY13 | Weighed student funding | Free or reduced price lunch | Approx. 0.40 | Augmentation for high free / reduced lunch percent |
| FY14 | Categorical Grant | Free or reduced price lunch | Approx. 0.40 | Augmentation for high free /reduced lunch percent |
| FY15 | Categorical Grant | Free textbooks | Approx. 0.40 | Augmentation for high free textbook percent |
| FY16 | Categorical Grant | SNAP, TANF, or Foster Care | No weights | Transition adjustment and augmentation for high ELL + CI decline |
| FY17 | Categorical Grant | SNAP, TANF, or Foster Care | No weights | Transition adjustment and augmentation for high ELL + CI decline |
| FY18 | Categorical Grant | SNAP, TANF, or Foster Care | No weights | Augmentation for high ELL + CI decline |
| FY19 | Categorical Grant | SNAP, TANF, or Foster Care | No weights | Augmentation for high ELL + CI decline |

 Table 9 provides information on the trend in education funding and at-risk funding in Indiana between FY10 and FY19.[[19]](#footnote-19) The first column shows total funding (“State Tuition Support”) per student without adjustments for inflation. The second column contains at-risk funding without inflation adjustments. The estimated share of at-risk funding for years FY10 through FY12 was calculated by multiplying the Basic Grant by the Complexity Index (minus one). Columns 3 and 4 repeat the calculations shown in columns 1 and 2 after adjusting financial values for inflation (base year = FY19). The next column shows the ratio of at-risk to total funding, and the last column contains the average Complexity Index adjusted to be on the same scale for all years.

 Several important observations emerge from Table 9:

1. Total funding per student (prior to adjusting for inflation) was relatively flat during this ten-year period. After adjusting for inflation, it can be seen that there was a notable decline in funding per student from FY10 to FY19.
2. There has been a significant drop in at-risk funding during the last ten years. On a per-student basis, at-risk funding is estimated to have fallen by almost 50% prior to adjusting for inflation. The decrease is even larger after making adjustments for inflation.
3. Combined, the share of total education funding directed towards at-risk funding has declined in the last ten years. In the early part of the decade, at-risk funding accounted for one-sixth to 20% of total funding. By the end of the decade, however, at-risk funding has fallen below 10%.

**Table 9: Changes in At-Risk Funding in Indiana, FY10 to FY19**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year1 | No Adjustment for Inflation | Inflation Adjusted (2019 $)4 | Ratio: At-Risk to Total Funding | Adjusted Complexity Index5 |
| State Tuition Support per Student2 | At-Risk Funding per Student3 | State Tuition Support per Student | At-Risk Funding per Student |
| FY10 | $6,618 | $1,136 | $7,687 | $1,320 | 17.2% | 0.193 |
| FY11 | $6,600 | $1,122 | $7,544 | $1,283 | 17.0% | 0.193 |
| FY12 | $6,255 | $1,271 | $6,945 | $1,411 | 20.3% | 0.222 |
| FY13 | n/a | n/a | n/a | n/a | n/a | 0.219 |
| FY14 | $6,541 | $1,055 | $7,039 | $1,135 | 16.1% | 0.232 |
| FY15 | $6,553 | $1,077 | $7,058 | $1,160 | 16.4% | 0.236 |
| FY16 | $6,407 | $792 | $6,807 | $841 | 12.4% | 0.228 |
| FY17 | $6,524 | $773 | $6,762 | $801 | 11.9% | 0.219 |
| FY18 | $6,635 | $660 | $6,738 | $670 | 9.9% | 0.186 |
| FY19 | $6,741 | $660 | $6,741 | $660 | 9.8% | 0.186 |

*Notes*: Data provided by Indiana Department of Education. Data are for public school corporations with complete data during this period (n=289). 1 FY13 data are omitted due to transition in funding period. 2 September ADM counts were used in each year to convert to per-student values. 3 At-risk funding in years FY10 through FY13 was estimated by multiplying adjusted Complexity Index by Basic Grant funding. At-risk funding in years FY14 through FY19 derived through the Complexity Grant. 4 Inflation adjustments were made with the January values of the Consumer Price Index (CPI-U) and base year =FY19. 5 Complexity Index values for years FY10 through FY13 were rescaled by subtracting 1.

 Table 10 provides information on several measures of student success in Indiana, and how they have changed from FY10 through FY18. The first column contains average school corporation graduation rates, and the last three columns report average pass rates on ISTEP+ math for selected grades. Because the ISTEP was rescaled / modified in FY15, values from FY15 forward cannot be directly compared with earlier rates. Nonetheless, the overall trends suggest that there were slight gains in graduation and pass rates from FY10 to FY14, with less progress in subsequent years.

**Table 10: Trends in Selected Student Outcomes in Indiana, FY10 to FY18**

|  |  |  |
| --- | --- | --- |
| Year | Graduation Rate | ISTEP+ Pass Rates |
| Math – Grade 3 | Math – Grade 6 | Math – Grade 8 |
| FY10 | 86.8% | 79.7% | 80.7% | 77.2% |
| FY11 | 87.8% | 81.5% | 82.1% | 78.2% |
| FY12 | 89.5% | 81.3% | 83.7% | 80.4% |
| FY13 | 90.3% | 82.8% | 84.5% | 81.7% |
| FY14 | 92.3% | 83.0% | 85.8% | 82.4% |
| FY15 | 92.1% | 64.6% | 62.1% | 52.8% |
| FY16 | 92.9% | 62.8% | 59.6% | 52.3% |
| FY17 | 92.1% | 60.0% | 60.9% | 55.1% |
| FY18 | 92.6% | 60.9% | 58.3% | 55.2% |

1. Summary and Recommendations

One possibility that is worth exploring is whether the State of Indiana could use tax return data for the purpose of measuring at-risk students and the CI. This would involve the state using tax returns to calculate the percentage of students with families that fall below a designated poverty level. Tax data would seem to meet all of the above criteria better than alternative metrics. First, the metric could be updated every year because new tax returns are filed annually. If a district experienced an increase or decrease in the percentage of families below the poverty threshold, this would be seen in the tax data. The State could choose to update these percentages every year, or every 2-3 years if desired. Second, tax data would provide as accurate a measure as possible of poverty status. Combining adjusted gross income with the number of dependents. Third, the data cannot be independently manipulated by parents or school districts to work to their funding advantage. Although tax filers have an incentive to minimize adjusted gross income for tax purposes, tax returns are subject to audit and verification by the state and federal governments. Finally, because this would arguably be a better measure of poverty concentration than other metrics, the CI could be set equal to the percentage of students with families below poverty without additional weights or combined with other factors.

1. Although most states use the label “school districts,” in Indiana these units are referred to as “school corporations.” The term corporation will be used when referring to Indiana and the term district will be used for general discussions of K-12 education that encompass other states. [↑](#footnote-ref-1)
2. See the study by Toutkoushian and Michael (2007). [↑](#footnote-ref-2)
3. Parker, E., & Griffith, M. (June 2016). *The importance of at-risk funding*. Education Commission of the States. Downloaded from <https://www.ecs.org/the-importance-of-at-risk-funding/>. [↑](#footnote-ref-3)
4. A similar approach applies when the minimum value for the Index is set equal to zero rather than one. Indiana switched definitions of the Index beginning in FY13. [↑](#footnote-ref-4)
5. Gridley, B., & Peters, R. (1987). *Report to Indiana Department of Education At-Risk Functional Group* (unpublished manuscript). More details on the development of Indiana’s At-Risk Index can be found in Vesper, N. (1995). *Options for Indiana’s At-Risk Index* (unpublished manuscript). Bloomington, IN: Indiana Education policy Center. [↑](#footnote-ref-5)
6. See report by Toutkoushian and Michael (2006). CEEP. [↑](#footnote-ref-6)
7. More details about the application process for the National School Lunch Program can be found at <https://www.fns.usda.gov/school-meals/applying-free-and-reduced-price-school-meals>. [↑](#footnote-ref-7)
8. More details on the Community Eligibility Provision program can be found at <https://frac.org/community-eligibility>. [↑](#footnote-ref-8)
9. More details on how FRAC calculates the Identified Student Percentage and translates this into funding can be found at <https://www.frac.org/wp-content/uploads/understanding-relationship-between-cep-and-title-I-funding.pdf> [↑](#footnote-ref-9)
10. More details on how Indiana implements the TANF program can be found at <https://www.in.gov/fssa/dfr/2684.htm>. [↑](#footnote-ref-10)
11. More details on how Indiana administers SNAP can be found at <https://www.in.gov/fssa/dfr/2691.htm>. [↑](#footnote-ref-11)
12. Coleman, J., Campbell, E., Hobson, C. McPartland, J., & Mood, A. (1966). *Equality of educational opportunity*. Washington, DC: U.S. Office of Health, Education, and Welfare. [↑](#footnote-ref-12)
13. See, for example: Hanushek, E. (1986). Economics of schooling: Production and efficiency in public schools. *Journal of Economic Literature*, *24*, 1141-1177. Hanushek, E. (1997). Assessing the effects of school resources on student performance: An update. *Educational Evaluation and Policy Analysis*, *19*, 141-164. Hanushek, E. (2003). The failure of input-based schooling policies. *The Economic Journal*, *113*, F64-F98. [↑](#footnote-ref-13)
14. Betts, J. (1996). Is there a link between school inputs and earnings? Fresh scrutiny of an old literature. In Burtless, G. (Ed.), *Does money matter? The effect of school resources on student achievement and adult success* (pp.141-191). Washington, DC: Brookings Institution. [↑](#footnote-ref-14)
15. Jackson, C. (2018). *Does school spending matter? The new literature on an old question*. Working paper, Northwestern University. Retrieved from: <https://works.bepress.com/c_kirabo_jackson/38/>. [↑](#footnote-ref-15)
16. Greenwald, R., Hedges, L., & Laine, R. (1996). The effect of school resources on student achievement. *Review of Educational Research*, *66*, 361-396. [↑](#footnote-ref-16)
17. Baker, B. (2016). Does money matter in education? (2nd edition). Washington, DC: Albert Shanker Institute. Retrieved from: <http://www.shankerinstitute.org/resource/does-money-matter-second-edition>. [↑](#footnote-ref-17)
18. See studies by: Papke, L. (2008). The effects of changes in Michigan’s school finance system. *Public Finance Review*, *36*, 456-474. Roy, J. (2011). Impact of school finance reform on resource equalization and academic performance: Evidence from Michigan. *Education Finance and Policy*, *6*, 137-167. Hyman, J. (2017). Does money matter in the long run? Effects of school spending on educational attainment. *American Economic Journal: Economic Policy*, *9*, 256-280. [↑](#footnote-ref-18)
19. Because the state’s funding formula was in transition in FY13, only half of a year of funding was reported and thus these figures were omitted from the table. [↑](#footnote-ref-19)