

Members

Sen. Edward Charbonneau, Chairperson
Sen. Luke Kenley
Sen. Ryan Mishler
Sen. Lindel Hume
Sen. Earline Rogers
Sen. Timothy Skinner
Rep. Terry Goodin, Vice-Chairperson
Rep. Phil GiaQuinta
Rep. Ed DeLaney
Rep. Thomas Dermody
Rep. Jeffrey Thompson
Rep. Milo Smith



INTERIM STUDY COMMITTEE ON SCHOOL FUNDING FORMULA

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Authority: P.L. 182-2009(ss)

MEETING MINUTES¹

Meeting Date: September 29, 2010
Meeting Time: 9:00 A.M.
Meeting Place: State House, 200 W. Washington St.,
Room 431
Meeting City: Indianapolis, Indiana
Meeting Number: 2

Members Present: Sen. Edward Charbonneau, Chairperson; Sen. Ryan Mishler; Sen. Lindel Hume; Sen. Earline Rogers; Sen. Timothy Skinner; Rep. Terry Goodin, Vice-Chairperson; Rep. Phil GiaQuinta; Rep. Ed DeLaney; Rep. Thomas Dermody; Rep. Jeffrey Thompson; Rep. Milo Smith.

Members Absent: Sen. Luke Kenley.

Chairman Charbonneau called the meeting to order shortly after 9:00 A.M. He recognized State Superintendent of Public Instruction Tony Bennett. Superintendent Bennett testified that: (1) per-pupil spending has gone up while results have gone down, and that we cannot spend our way out of the problems; (2) there are positive signs for education in Indiana; (3) last year Indiana had the highest Advance Placement (AP) participation in the nation; (4) more schools are using the PSAT; and (5) career and technical education is being modernized.

Superintendent Bennett explained that the money from the federal education jobs legislation cannot be used for general administrative expenses. He noted that he had sent a letter in August to school board members and superintendents urging them to be careful with this federal money, because these are one-time funds.

Superintendent Bennett testified that: (1) September 17 was the day of the ADM (average daily membership) count, and that the numbers for the count are being finalized; (2) he had heard last year that there would be 5,000 teachers losing their jobs, but that he does not think this

¹ These minutes, exhibits, and other materials referenced in the minutes can be viewed electronically at <http://www.in.gov/legislative>. Hard copies can be obtained in the Legislative Information Center in Room 230 of the State House in Indianapolis, Indiana. Requests for hard copies may be mailed to the Legislative Information Center, Legislative Services Agency, West Washington Street, Indianapolis, IN 46204-2789. A fee of \$0.15 per page and mailing costs will be charged for hard copies.

number will be reached; (3) schools in Knightstown and Portage had moved to the state health care plan, Plymouth teachers had voted to give back a pay raise, Fort Wayne schools had outsourced custodial services, and Noblesville schools had closed a pool; and (4) schools are using creative ways to bring in new revenue and to achieve efficiencies.

Superintendent Bennett commented that tremendous work had been done on simplifying the school funding formula, and that he hoped for further simplification and for money to follow the children. He questioned whether, when a student moves from a district with a high dollars-per-student amount to a school district with a lower dollars-per-student amount, that student becomes less difficult to educate or is less disadvantaged merely by moving from one district to another. He testified that state law provides that the compensation structure is based on years of experience and degrees attained, but that research shows that this is not related to quality performance.

Members questioned Superintendent Bennett concerning:

- the issue of whether young teachers are still being hired out of college, and whether enough is being done to take advantage of the increasing number of young people who want to teach;
- the issue of whether things such as the teacher incentive fund grants, school referenda, and the ability to transfer money from the capital projects fund would affect equalization efforts;
- corporations participating in health insurance consortia;
- the complexity index used in the school funding formula;
- the issue of whether having money follow the child includes the use of vouchers;
- the need to look at the structure of the educational system and to consider pre-K through grade 16; and
- the turmoil in education.

Senator Ryan Mishler and Senator Lindel Hume questioned Superintendent Bennett concerning attracting new teachers. Representative Goodin testified that he is asking the Governor to convene an educational summit to improve education. Representative Milo Smith asked Superintendent Bennett to send to the Committee a list of what is working in education. Senator Tim Skinner commented that he was tired of being told that teachers and students are failures.

Chairman Charbonneau then recognized Chuck Mayfield, fiscal analyst with the Legislative Services Agency. Mr. Mayfield described the history of the complexity index used in the school funding formula. He testified that in 2008, the complexity index was reduced to one factor -- the percentage of students eligible for free or reduced lunch. (See Exhibit A.)

Chairman Charbonneau recognized Terry Spradlin of Indiana University's Center for Evaluation and Education Policy (CEEP). Mr. Spradlin had distributed three handouts to Committee members. (See Exhibit B, "What is the Complexity Index", Exhibit C, "Funding At-Risk Students: Re-examining Indiana's Approach", and Exhibit D, "Effects of Background and Policy Variables on School Performance in Indiana".) Mr. Spradlin testified that the research questions concerning the complexity index are: (1) does the index include the right factors? (2) does the index use the correct weights for the factors? and (3) what is the effect of the state's

foundation program? Senator Tim Skinner questioned Mr. Spradlin concerning why just one variable is used in the current complexity index.

Mr. Mayfield then testified that: (1) in the 1970s, the state used an Average Daily Attendance (ADA) count in the school funding formula; (2) in 1975, the state began using a combination of the ADA and the Average Daily Membership (ADM) count; (3) the ADA count was based on the average number of students attending in a 15-day period, and the ADM count is based on the number of students on a fixed day; (4) an enrollment change factor (the "deghoster") was introduced to address the issue of declining attendance; and (5) the idea behind the deghoster was to give school corporations with declining enrollment the time to adjust to those enrollment changes.

Mr. Mayfield also described various factors that have been used in the school funding formula at various times, including: (1) the training and experience index; (2) flat grants; (3) the minimum guarantee; (4) maximum increase limits; (5) adjustments for enrollment changes; (6) a "bottom-up" adjustment that sets a minimum dollars-per-student funding level; and (7) the small-school grant. Mr. Spradlin testified that: (1) in 2009 the use of the deghoster led to the counting of 16,315 "ghost" students, which resulted in \$93.7 million of funding; and (2) a stronger model will result from a complexity index with additional factors, but that needs to be weighed against the additional formula complexity (as compared to a formula having a complexity index with only one factor). Representative Tom Dermody questioned Mr. Spradlin concerning the deghoster. Senator Earline Rogers testified that the money described as being spent on ghost students was actually being spent on programs. Representative Goodin commented that rising inequality will result from school referenda. Representative Ed DeLaney questioned whether equality is under threat from referenda, the ability to move money from certain school funds, and the influx of federal dollars. Mr. Mayfield distributed two handouts to Committee members. (See Exhibit E, "ADM Calculation History", and Exhibit F, "Factors Used in School Formula".) Mr. Mayfield also distributed Mr. Marvin Ward's outline of his testimony at the Committee's first meeting. (See Exhibit G.)

Chairman Charbonneau recognized Mr. Bill Riggs, Superintendent of the Mount Vernon Community School Corporation. Mr. Riggs testified that when the issue of school insurance is considered, it must be kept in context, because insurance benefits are part of the total package that is negotiated.

Chairman Charbonneau then recognized Libby Cierzniak of Baker & Daniels, representing Indianapolis Public Schools (IPS). She testified that she had heard the comment that \$93 million is being spent for students who are no longer there, but that it is better to consider this as funding for students who are still there and who have a higher marginal cost. Ms. Cierzniak described staffing cuts made by IPS, and explained that the issue is how quickly the school district can make adjustments. She also testified that: (1) concerning referenda, there are cultural differences and property wealth differences between schools; and (2) IPS has only one-half the amount of assessed valuation per student as does Washington Township schools.

Chairman Charbonneau next recognized Gail Zeheralis of the Indiana State Teachers Association (ISTA). Ms. Zeheralis testified that: (1) one issue to consider is that at times the school funding formula has manipulated the weights and thresholds used in the complexity index and in the deghoster; (2) the \$93 million discussed by the Committee is for students who remain at the school; (3) if a local school district believes factors are important in determining compensation, it can consider these factors in the collective bargaining process; and (4) it is time for the state to perform a cost-benefit analysis.

Derek Redelman of the Indiana State Chamber of Commerce was recognized by Chairman Charbonneau. Mr. Redelman distributed a chart to Committee members (see Exhibit H) and

testified concerning disparities in per-pupil funding. He testified that in the 2009 budget, those schools with the greatest per-pupil funding received the largest increases. He noted that in the school funding formula there are controls on what would otherwise happen when the factors in the formula are applied.

Chairman Charbonneau then noted that the Committee's next meeting is tentatively set for October 19 at 1:30 P.M. He then adjourned the meeting.

Exhibit A

Complexity Index History

- The complexity index was originally used by the Educational Opportunity for At-Risk Students program. The program was created by the 1987 General Assembly as part of Governor Orr's A+ program. The appropriation was \$15 M for FY 1988-89. The formula was to be developed by the Department of Education using census information not single factor could be weight more than 50%..
- The 1991 legislature defined the at-risk index by law and made it part of the school formula. The index for CY 1992 was based on 1980 federal decennial census data. The index was:
 - 0.315 multiplied by the percentage of families in the school corporation with children less than 18 years of age and who have a family income below the federal income poverty level.
 - 0.5 multiplied by the percentage of noninstitutionalized children in the school corporation whose parents do not live together in the same household.
 - 0.185 multiplied by the percentage of population in the school corporation who are at least 19 years of age and have not graduated from high school.
- The at-risk grant in CY 1992 was \$110 times the at-risk index times the school corporations ADM. The grant was about \$19.9 M.
- The 1994 school formula included the concept of weighted ADM. If a school's at-risk index was greater than .2 then their ADM was increased by the at-risk index times 0.062 in 1994 and 0.069 in 1995 times their ADM.
- In 1996 the 1990 federal decennial census data was used in calculating the at-risk grant. The index was sum of :
 - .16 times the percentage of families in the school corporation with children who are less than 18 years of age and have a family income level below the federal poverty income level.
 - .4 times the percentage of families in the school corporation with a single parent.
 - .44 times percentage of the population in the school corporation who at least 20 years of age with less than a 12th grade education.
- In 2000, the at-risk index was used in the calculation of regular tuition support to vary the amount of the flat grant school would receive. The flat grant was multiplied by 1 plus the at-risk index.
- In 2002, two additional factors were added to the at-risk index.
 - The at-risk index was :
 1. Multiply the corporation's at-risk index by .23 in 2002 and .25 in 2003 and divide by .376.
 2. Subtract .0364 in 2002 and .0395 in 2003 from step 1.
 3. Multiply the percentage of students eligible for free lunch in 2001 by .23 in 2002 and .25 in 2003 and divide by .723.

4. Multiply the percentage of the corporation's students who were classified as limited English proficient in 2000 by .23 in 2002 and .25 in 2003 and divide by .1715.
 5. 1 plus sum steps 2, 3, and 4 and divide by 3.
- In 2004, the five factor at-risk index was changed to the complexity index, the at-risk grant was rolled into regular support, and the complexity index was change to be a dollar amount divided by the state foundation amount. The calculation of the complexity index was:
 - The complexity index was :
 - a) Multiply the percentage of the population in the school corporation who is at least 20 years of age with less than a 12th grade education based on census data times the quotient of \$870 in 2004 and \$970 in 2005 divided by \$4,350 in 2004 and \$4,368 in 2005.
 - b) Multiply the percentage of students in the school corporation who were eligible for free lunches in 2003 times the quotient of \$1,100 in 2004 and \$1,200 in 2005 divided by \$4,350 in 2004 and \$4,368 in 2005.
 - c) Multiply the percentage of students in the school corporation who were classified as limited English proficient times the quotient of \$310 in 2004 and \$430 in 2005 divided by \$4,350 in 2004 and \$4,368 in 2005.
 - d) Multiply the percentage of families in the school corporation with a single parent based on census data times the quotient of \$440 in 2004 and \$530 in 2005 divided by \$4,350 in 2004 and \$4,368 in 2005.
 - e) Multiply the percentage of families in the school corporation with children who are less than 18 years of age and have a family income level below the federal poverty income level based on census data times the quotient of \$220 in 2004 and \$330 in 2005 divided by \$4,350 in 2004 and \$4,368 in 2005.
 - f) Add 1 to the sum of steps a, b, c, d, e.
 - g) If the result in step f is greater than 1.25 then add step f and the sum of:
 - I. Multiply the percentage of students in the school corporation who were eligible for free lunches in 2003 times the quotient of \$150 divided by \$4,350 in 2004 and \$4,368 in 2005.
 - II. Multiply the percentage of the population in the school corporation who at least 20 years of age with less than a 12th grade education based on census data times the quotient of \$150 divided by \$4,350 in 2004 and \$4,368 in 2005.
 - In 2006, the complexity index was :
 - a) Multiply the percentage of the population in the school corporation who are at least 25 years of age with less than a 12th grade education based on census data times the quotient of \$1,019 divided by \$4,517 in 2006 and \$4,563 in 2007.
 - b) Multiply the percentage of students in the school corporation who were eligible for free lunches in 2005 times the quotient of \$1,260 divided by \$4,517 in 2006 and \$4,563 in 2007.

- c) Multiply the percentage of students in the school corporation who were classified as limited English proficient times the quotient of \$452 divided by \$4,517 in 2006 and \$4,563 in 2007.
 - d) Multiply the percentage of families in the school corporation with a single parent based on census data times the quotient of \$440 in 2004 and \$530 in 2005 divided by \$4,350 in 2004 and \$4,368 in 2005.
 - e) Multiply the percentage of families in the school corporation with children who are less than 18 years of age and have a family income level below the federal poverty income level based on census data times the quotient of \$220 in 2004 and \$330 in 2005 divided by \$4,350 in 2004 and \$4,368 in 2005.
 - f) Add 1 to the sum of steps a, b, c, d, and e.
 - g) Greater of 0 or .5 times step f minus 1.25.
 - h) Add step f and step g.
- In 2008, the complexity index was reduced to one factor, percentage of students eligible for free or reduced lunch. The complexity index was :
 - a) Multiply the percentage of students in the school corporation who were eligible for free or reduced lunches in 2007 times the quotient of \$2,250 divided by \$4,790 in 2008 and \$2,400 divided by \$4,825 in 2009.
 - b) Greater of 0 or step a minus 1.25.
 - c) Step 2a plus 2b.

Exhibit B

What is the Complexity Index?

Robert K. Toutkoushian and Robert S. Michael

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UPCOMING POLICY BRIEFS AND REPORTS . . .

- ✓ *Indiana's Mathematics and Science Performance: Do We Measure Up?*
- ✓ *Outcomes of the School Choice and Supplemental Services Provisions of NCLB*
- ✓ *The Use of Time During the School Day and Its Impact on Student Achievement*

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INTRODUCTION

For the past 30 years, education policymakers and researchers across the nation have been concerned with designing funding systems for public schools that distribute revenues in an equitable manner. One of the principles that emerged from this work is that school corporations with more traditionally disadvantaged students should be given more money to help narrow the achievement gap. This principle is known in school finance research circles as vertical equity. In response to calls for vertical equity, many states implemented funding formulas that allocated revenues to school corporations in part based on the socioeconomic status of the students served by the corporations.

Indiana is no exception. In 1993, the state created what was known as the At-Risk Index (ARI). The ARI was a weighted-average index comprised of three socioeconomic factors that were chosen because they were found to be correlated with measures of school corporation performance in the state. The state's funding formula was then modified to provide additional funding to school corporations in proportion to the ARI. Because higher values of the ARI were associated with lower socioeconomic status communities, the result was that these communities on average would receive more money per pupil than higher socioeconomic status communities. In 2003, the ARI was replaced by the Complexity Index (CI). The CI added two factors to the same three factors used in the ARI, and applied different weights to these factors.

There are reasons for concern, however, with the state's approach towards achieving vertical equity. Despite the efforts over the last 13 years to provide more funding to

school corporations located in low-socioeconomic areas of the state, policymakers in Indiana have continued to observe substantial performance gaps between students in high- and low-socioeconomic communities. Students in wealthier communities continue to outperform their peers in poorer communities in terms of both pass rates on the ISTEP+ and likelihood of going on to college after graduation. Similar gaps persist by race/ethnicity and with all of the five Complexity Index factors.

As part of an ongoing and regular review of the school funding formula by a group of state agencies, questions have emerged as to whether the state is targeting the right socioeconomic factors for funding adjustments, and whether the list of factors in the CI should be expanded or contracted. The weights used for each factor in the CI have also come under scrutiny. While the original weights in the ARI were based on the strength of the relationships of each factor to school corporation performance, the weights have been modified over time as part of the legislative budgeting process, and may not reflect the current relationships. In addition, the weights may not properly take into account the interrelationships among the CI factors. Finally, the state's funding formula contains a number of overlay provisions that may be affecting the additional funding actually received by school corporations for each of the CI factors.

In this Education Policy Brief, we begin by describing in more detail how the CI was derived and how it is used in the state's funding formula. We then raise some issues that should be considered when policymakers consider changes in either the Complexity Index factors, the weights attached to each factor, or the manner in which the Complexity Index affects funding for school corporations.

DEVELOPMENT OF THE COMPLEXITY INDEX

Foundation aid programs, better known as funding formulas, are used in virtually every state to determine the level of educational resources for public school corporations. These aid programs were often created in response to legal challenges claiming that the levels of funding for school corporations were highly dependent on the wealth of the community.

In its simplest form, a funding formula prescribes the total revenue needed by each school corporation for providing basic education services and the shares of revenues that must be raised locally through a uniform property tax rate. The state is then responsible for making up the difference for school corporations between their “target revenue” and local tax revenues. In practice, states often make adjustments in the aid programs for the cost of living in the school corporation’s community and the additional needs of particular groups of students.

Over time, policymakers across the nation recognized that school funding formulas could also be used as a means to help address the achievement gaps between selected groups of students. This corresponds to the notion that a fair system of school funding would have to provide additional revenues to school corporations with more traditionally disadvantaged students so that achievement gaps could be reduced or eliminated. This difference in revenue is referred to as vertical equity. Park (2004) found in her survey of the states that approximately half of all states provide for revenue adjustments based on measures of student poverty or at-risk students, and 19 states also do so for non-English speaking students.

Indiana has used a foundation aid program to provide revenues to public school corporations dating back to 1949 (Johnson & Lehen, 1993). The formulas have changed substantially over time, as documented by Johnson and Lehen (1993), Toutkoushian and Michael (2004), and Hirth and Eiler (2005). Indiana’s formula begins with the level of total revenues for school corporations (“target revenue”) and the shares of revenues that must be raised locally through property taxes (“tuition support levy”). Tax revenues from commercial vehicles, motor vehicles, and financial institutions are also included. The state is then responsible for making up the difference for school corporations

between their target revenue and local tax revenues. This is depicted below in Figure 1.

In 1993, Indiana made changes to its funding formula to address vertical equity concerns. The state created what became known as the At-Risk Index (ARI), and used the ARI to ensure that school corporations in low-socio-economic communities received more funding per pupil than their counterparts. The development of the ARI can be traced back to 1987 and Indiana Public Law 390, where the state established the Educational Opportunity Program for At-Risk Students. As noted by Gridley and Peters (1987, p.2), “Section 4 for this chapter requires the Department of Education to devise a formula to allocate \$20 million to Indiana school corporations to fund eligible programs for students so defined.” The law also specified that three factors were to be considered for use in the formula:

- The percentage of adults in the corporation with less than a high school education (*NoHS*);
- The percentage of single parent families in the corporation (*OneP*);
- The percentage of families in the corporation with dependent children and living in poverty (*Pov*).

None of the three factors were to have a weight greater than 50% in the formula for distributing funds.

The weights for the three factors were based on the estimated strengths of the relationships between each factor and three measures of “academic failure”: the absentee rate, the dropout rate, and the percentage of students who failed the Indiana Basic Competency Skills Test, a component of the Indiana State-

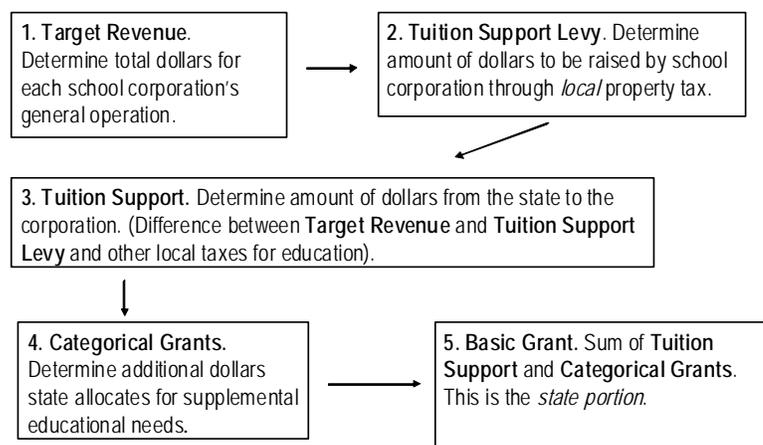
wide Testing for Educational Progress (ISTEP) program. The Gridley and Peters (1987) study found that these three factors together accounted for 77% of the total variance in academic failure across school corporations, with the largest share (62%) being attributed to single-parent families (*OneP*), 24% for the percentage of families in poverty (*Pov*), and 14% for the proportion of adults without a high school education (*NoHS*). Due to the 50% restriction set by state law for any single factor, the final weights for each factor were 0.50 for *OneP*, 0.315 for *Pov*, and 0.185 for *NoHS*. The weights were then used to compute the ARI as follows:

$$ARI = 0.50 * OneP + 0.315 * Pov + 0.185 * NoHS$$

The ARI could in theory vary between 0 and 1 depending on the values of the factors *OneP*, *Pov*, and *NoHS*. At one extreme, when all three variables equal zero, the ARI will equal zero. This corresponds to the highest possible socioeconomic status measure for communities. At the other extreme, when all three variables equal 1, the ARI will also equal 1. In practice, the average ARI value for Indiana school corporations in 1996 was only 0.198, with a minimum of 0.059 and a maximum of 0.433.

School corporations were then given supplemental funding in the form of a categorical grant to meet the needs of students in these categories. Because school corporations in low-socioeconomic areas had higher ARI values than other corporations, they received larger per-pupil supplemental funding from this source. The average per-pupil dollar adjustment in 1996 was only \$19.80, and

Figure 1: Steps in Calculating School Corporation Funding in Indiana



ranged from a low of \$5.90 per pupil to a high of \$43.30 per pupil. These dollar adjustments represented a relatively small share of the per-pupil foundation level.

There were three drawbacks to the ARI that contributed to its eventual replacement. First, because the values for the three vertical equity factors were obtained from the U.S. Census, they could only be updated every 10 years. Accordingly, school corporations with changing demographics would not see changes in revenues keeping pace. A second concern was the observation of policymakers that students with limited proficiency in English may also be at a disadvantage in terms of their education, and that additional funding is needed for this group. Third, the dollar increases for at-risk students were relatively modest, and thus may have been less effective at narrowing the achievement gaps between groups of students. Finally, the ARI measures related only to the characteristics of the entire community in which a school corporation was located, and not necessarily the characteristics of the students that they served.

In 2003, in response to these concerns, the state of Indiana replaced the At-Risk Index with the Complexity Index (CI). The CI relied on the same three vertical equity factors as the ARI, plus two additional factors: (1) the percentage of students on free lunch (*FreeL*), and (2) the percentage of students with limited proficiency in English (*LEP*). The Complexity Index in any year is computed as follows:

$$CI = 1 + \beta_1 * NoHS + \beta_2 * OneP + \beta_3 * Pov + \beta_4 * FreeL + \beta_5 * LEP$$

with β_1 through β_5 representing the weights assigned by the state to each vertical equity factor.¹ The lowest possible value for the CI is 1.00 when all of the five CI factors are equal to zero. This corresponds to the highest possible socioeconomic status for a community. Figure 2 provides an example of how the Complexity Index was determined for Indianapolis Public Schools in 2006. As the socioeconomic status of a community decreases, the values of one or more of the five factors will increase and so will the CI.

The weights for all factors represent the proportion increase in funding that is to be given to school corporations for students in each category. The values are revised and updated each biennium by the state legislature as part of the budget deliberation process. The weights are set equal to the per-pupil dollar amounts prescribed by the legislature for each factor divided by the base per-pupil foundation level used in the funding formula.

Figure 3 illustrates how the weights for each factor were set for 2006.

HOW TO SELECT COMPLEXITY INDEX COMPONENTS

The choice of factors to include in the Complexity Index has obvious implications for the amount of funding provided to school corporations and the state's ability to narrow the achievement gap. The first criterion is that the factors should have a theoretical connection between the socioeconomic status of students and/or their need for educational services. A second criterion is that the factors have to be measurable. States often rely on factors such as the educational attainment level and poverty status of communities — because the data are available from the U.S. Census. Similarly, school corporations routinely track the number of children who participate in the free lunch program. Other factors such as parental support and encouragement, which are likely to be related to student need, are difficult to measure and thus rarely included in state funding formulas (Christian, Morrison, & Bryant, 1998; Epstein, 2001; Henderson & Mapp, 2002).

A third criterion is that the factor should be correlated with student outcomes. This can be

assessed by identifying particular outcome measures such as the ISTEP+ pass rate and determining if the factor in question is correlated with the outcome measure. Furthermore, the correlation should exist after taking into account the effects of other factors used in the index. If two variables are very highly correlated with each other (such as the percentage of children who receive free lunch and the percentage of families with children who are below the poverty level), then only one of the factors may be needed to capture the effect of the underlying concept (in this case, family income) on student outcomes.

CEEP is currently working on a study to examine the set of factors that could be included in the Complexity Index. In this study, we are focusing on the correlations between the five Complexity Index factors and the ISTEP+ pass rates for school corporations, and have found that (1) the variable for free lunch accounts for more variance in ISTEP+ pass rates than any other factor, and (2) the variables for limited English proficiency and poverty could be omitted from the Complexity Index with no substantial loss in the explanatory power of the model. However, because the state budget includes only \$700,000/year for *LEP* programs, removal of this variable from the CI may be politically unappealing.

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Figure 2: Example of Complexity Index Calculation for Indianapolis Public Schools, 2006

- % population 25 or older with less than 12th grade education in 2000 = 28.32%
- % single-parent families in 2000 = 55.49%
- % families with children < 18 and incomes below poverty level in 2000 = 24.32%
- % students receiving free lunch in 2004-05 = 65.53%
- % students with limited English proficiency in 2004-05 = 7.24%

$$\begin{aligned} \text{Complexity Index} &= 1 + (.2832)(.2256) + (.5549)(.1233) + \\ &\quad (.2432)(.0768) + (.6553)(.2789) + (.0724)(.1001) \\ &= 1.341 \\ &\quad + \text{additional adjustment of } 0.50 * (1.341 - 1.25) = .0455 \\ &= 1.3865 \end{aligned}$$

Figure 3: Calculation of Weights in Indiana's Complexity Index for 2006

CI Component	Weight
% population 25+ with less than 12 th grade education (<i>NoHS</i>)	\$1,019/\$4,517 = 0.2256
% single-parent families (<i>OneP</i>)	\$557/\$4,517 = 0.1233
% families with children < 18 and incomes below poverty level (<i>Pov</i>)	\$347/\$4,517 = 0.0768
% students eligible for free lunch (<i>FreeL</i>)	\$1,260/\$4,517 = 0.2747
% students with limited English proficiency (<i>LEP</i>)	\$452/\$4,517 = 0.1001

Policy Perspectives

SCHOOL FUNDING 2007: MORE PROGRESS OR MOVING BACKWARD?

Senator Luke Kenley



Two years ago, in the budget bill enacted in 2005, Indiana took a giant step forward in adopting a new approach to school funding, one designed to drive funds equitably to all public school children of our state, taking into account the needs of each and every child. The catch phrase used to describe the formula is “funding follows the child”. It removes political maneuvering as a determinant and focuses on need by driving additional funding to those children that display at-risk characteristics statistically proven to be closely associated with poor classroom performance.

Stated simply, the formula provides a foundation amount that the school receives for every child, then uses a “Complexity Index” to drive additional funding to children who exhibit one or more of the following at-risk characteristics:

1. Free lunch eligibility
2. Single parent family
3. Family below federal poverty level
4. A parent with less than high school education
5. Limited English language proficiency

Amounts are designated for each at-risk characteristic and are included in the funding for that child. In addition, if a school corporation in total shows a complexity factor above a certain level, additional funds are included to compensate for the aggregating effect of the factors.

Beyond these calculations, additional funding is granted on a per-child basis for three levels of special education qualifiers, for certain desired vocational education programs, and for “primetime” support.

All of these factors were implemented in a transitional approach from the old formula so that no corporation would be impacted too much by a sudden shift in formula application.

In addition, a number of categorical grants managed by the DOE, such as textbook reimbursement, summer school, remediation, gifted and talented, etc., were added for targeted support of certain schools.

A critical issue for the 2007 session will be whether this new formula, more objective and less political, will prevail, or whether the Indiana Legislature will return to a more bare-knuckled approach, which pits different types of school districts against each other in a fight for education dollars. My hope is that the future of each and every child will keep our focus on how best to produce effective funding for public education.

Other topics that will be on the table include: how much overall increase in funding can be supported, full-day kindergarten implementation, possible solutions regarding the shockingly high dropout rate, whether we can reduce reliance on property taxes for the relief of property tax payers, and how to attract teachers to certain curriculum areas and to schools with greater challenges.

An additional pressure point regarding school funding is the filing this year of a lawsuit, primarily funded by the Indiana State Teachers Association (ISTA), challenging the “adequacy” of school funding in Indiana. The complaint actually approves of many elements of the current funding formula, but feels that the overall funding levels are not “adequate”, with the complaint defining how “adequate” should be measured.

With an average of over \$10,000 per pupil being funded from all sources, Indiana has made strong efforts to produce needed funds. By most comparative measures, Indiana’s state legislature has clearly given public education a high priority in its funding decisions. It will be a matter of grave concern if school funding is taken out of the hands of the duly elected representatives of every voter in the state, and taken over by a single judge.

School funding is a complicated issue and requires much work on the part of many interested constituencies. It is important that all voices be heard. It is also important that we all support the result of our combined efforts, which of necessity will require compromise and understanding. Continuing to insure delivery of equitable and adequate funding for education to help our children prepare for their future is worthy of our best effort.

**Luke Kenley is the state Senator for
Senate District 20 in Indiana**

Policy Perspectives

SCHOOL FUNDING: A COMPLEX ISSUE

Dennis L. Costerison



Several years ago, the joke in the State House was that the four people in the State of Indiana who understood the school distribution formula couldn't ride in the same airplane. In other words, the complexity of the formula was so great that only a handful of individuals could explain it. The funding mechanism for Indiana's public schools for 2007 continues to be complicated and covered by various policy decisions.

It now takes 23 pages to determine the amount of state and local dollars that will be distributed to public schools in 2007. Why so complicated? School funding has evolved into a process that contains numerous factors to meet the needs of an ever-changing school environment. The community demographics have changed and student population continues to diversify.

When I began my career with the Department of Education in 1971, the formula was on one page. Of course, the world was not as complicated then, and we did not have a Complexity Index, separate special education and vocational education funding, prime time, property tax shortfalls, adjusted enrollment figures, target revenues, charter school funding, English as a second language students, enrollment growth factors, and so forth. In 1971, there really was not a formula as we know it now but a flat grant that the state provided to schools. At that time, local school boards could determine the amount of property taxes they needed for their general operations. That local control ended with the 1973 Bowen tax package. The General Assembly now controls both state and local funding levels. The concept of the current foundation formula began in 1974 when the foundation amount was \$445. The foundation amount in the 2007 formula is \$4,563, and it takes those 23 pages to determine the distribution.

In the 2007 session of the General Assembly, a new school formula will be developed. The 2007 formula will generate over \$3.7 billion of state support and over \$2 billion of local property taxes for the General Fund of Indiana's school corporations.

Sixty percent of the local share is paid by the state through property tax replacements credits. So, the true local share is less than 15% of the total formula funding. The largest portion of the state's biennial budget is for K-12 education, and school funding is a legislative priority that members of the General Assembly take extremely seriously.

For the past four years, the State of Indiana has been fighting its way out of the latest recession. State revenues from income, sales, and corporate taxes were far below estimates. The state surplus was gone, and legislators were hard pressed to find new money for any program. Overall school funding did increase during this time, but innovative funding sources (called outside provisions) were instituted to provide additional opportunities for dealing with General Fund expenditures. One such factor was the ability to pay for utilities and property/casualty insurance from the Capital Projects Fund. Even with the statewide increase in funding, formula amounts did not increase for some school corporations. This is the first time this has happened during my career. Over one hundred school districts received less money from the formula in 2007 than from their funding in 2006. Even with the outside provisions, 47 corporations received less funding. This happened because of a lack of state dollars, and not because legislators desired this outcome. But, for sure, the last four years have been difficult for the public schools.

Therefore, the 2007 session of the General Assembly is very important to Indiana's school corporations. For the next biennium, the budget forecast is somewhat brighter and there will be additional state funds available to provide formula increases. Governor Daniels has called for a minimum increase of 3% for each year of the next biennium and State Superintendent Reed's budget request was 4%, which is the Indiana Association of School Business Officials (ASBO) proposed formula increase. From all indications, each of the four legislative caucuses has made formula funding a priority.

Regarding specific formula issues in the funding mechanism, the complexity index is an important factor. This Education Policy Brief describes the history of the factor from the early 1990's as the At-Risk Index to its current composition. In order to meet the needs of children qualifying for the factor,

the dollar amounts for each factor in the index should be increased. That is the greatest issue with the complexity index, and adequate increases would allow the factor to truly assist those students in need. There will be moves to add reduced lunch students to the free lunch factor and there could be a review of a rural factor this session. During the 2007 General Assembly, the Complexity Index will be one of the major focal points in determining the new funding formula.

The concept of guaranteeing a percentage increase over the previous year's revenue began in 1986. I can remember when the guarantee was 5%, and in the 80's there was also a 10% cap because the formula generated increases over 10%. Times have definitely changed. The 2007 formula does not have a percentage increase guarantee, but a guarantee of 99% of the previous year's revenue. From a theoretical standpoint, the guarantee concept does not allow a formula to work properly. From a practical standpoint, some form of guarantee could be needed if the formula does not provide adequate funding for some school districts. This concept will once again be a major policy discussion item. One way to make sure that the guarantee goes away is to have sufficient funding that allows the formula to work for all school corporations.

Another concept that will be reviewed closely this year will be the total elimination of property taxes in the funding formula. The State of Indiana has controlled the amount of state and local support for school corporations since 1974. Will local control be eroded if property taxes are eliminated in the formula? What happens to new school facility appeals and referendums? Where does new money come from for schools in times of recession? With this idea, the issues of tax appeals and not receiving 100% of property tax collections would be eliminated. This is an intriguing issue, and I look forward to an open debate on the concept.

Yes, school funding is complex. As school corporations evolve, the funding mechanism will follow. Hopefully, the current 23-page document can be reduced and simplified. I believe that is a worthy goal for the General Assembly and the school community. But, just in case, let's make sure those four folks who understand the formula travel separately.

Dennis Costerison is Executive Director of the Indiana Association of School Business Officials

Policy Perspectives

CONSIDERATIONS FOR THE NEXT SCHOOL FUNDING FORMULA

Terry Goodin and Erik Gonzalez



The task for public leaders and educators today is very daunting. The role of the educator and those leaders who supply the safety net for educators has expanded greatly beyond the scope of simply “educating” children.

Many educators today are all too familiar in dealing with social problems in the classroom that were previously dealt with by the family, community, and/or church. In many instances the teacher must assume the roles of family and community for those children who lack such support. Likewise, for many years educational leaders have tried to break down the social demographics of school corporations into the classic “urban,” “suburban,” and “rural.” Today, however, state and educational leaders must look at a picture much broader than the generic “caste system” of the past. Local educators are realizing that those social factors once dealt with by urban schools are now also present in suburban and rural areas. Hence, to fulfill the educational need of all students, Indiana must reform the way it funds its 293 public school corporations. The Indiana General Assembly must allow educators to fill in the gaps left by a myriad of social and economic factors when educating students by properly funding the educational process in Indiana.

For nearly 15 years the underlying premise guiding Indiana’s school funding formula has been one that has stressed the generalized concept of “equal” funding amongst school corporations predicated on pupil counts. The equalization in funding methodology has been the preeminent precept in providing state funding to Indiana’s 293 school corporations regardless of how those school corporations’ students are situated demographically or academically. However, a major paradigm shift in the field of education finance has recently materialized. The current concept of equalized funding has largely been eclipsed by the new concept of adequacy in funding.



Adequacy in funding differs from the equalization approach in the sense that funding is proportionately directed to where the academic need actually is, in contrast to the equalization in funding approach where the primary focus in funding is the allocation of dollars based on basic student counts ratios (i.e., more students = more money). The most obvious downside of this equalization process was the fact that it funneled a large portion of the states resources into a handful of school corporations whose student populations were growing at a very fast pace.

The adequacy approach acknowledges the fact that not all students come to school equally prepared to engage in academic activities. Adequacy funding attempts to rectify the existing disparities in readiness to learn by redirecting funds in such a manner that each and every student can be academically successful. Under the adequacy paradigm, it is perfectly acceptable for a student in one corporation to receive more funding than a student in another corporation. Coming into play here is the common knowledge in the educational realm the fact that some students are simply tougher to educate than others, therefore, more resources are required to accomplish the educational task.

The current Indiana school funding formula has tangibly acknowledged the dissimilitude in each student’s readiness to learn and has at least begun to embrace (at least in concept) the adequacy approach by the creation and utilization in the current and (the immediately preceding school funding formula) of the Complexity Index. The underlying problems with the Complexity Index as currently constructed are basically two-fold:

1. The individual indices utilized in the index are derived for the most part from the latest Decennial Census figures (in this case the 2000 Census). The age of the data is a major impediment when it comes to accurately gauging current need and readiness;
2. Common research has shown that the most accurate gauge of need (trumping all others that are currently utilized) is poverty. Thus, the most accurate and time-sensitive proxy that can be used in Indiana when it comes to funding the Complexity Index is the Free and Reduced Lunch count.

Another significant area of concern with the current Complexity Index is the fact that even though the Complexity Index ostensibly generates and directs funding to those students with the greatest needs, when the index is actually calculated the students never receive the funding (in effect it is cancelled) because the inner workings of the formula in the ultimate analysis nullify the intent of the Complexity Index.

Thus, if the intent of the Complexity Index is indeed the re-direction of adequate resources according to the individual needs of the student, then the state must reformulate the Complexity Index so that only the Free and Reduced Lunch factor is utilized in the direction of resources. In addition, the univariate Free and Reduced Lunch should be funded in such a manner that “real” money is devoted to the factor within the actual funding formula.

As Indiana continues into the 21st century, the adequate funding of public schools must emerge as the great equalizer to help public leaders help educators overcome the barriers of underfunded school programming. Furthermore, re-directing much needed funds to all school corporations must be a central focus of any state funding formula that realistically expects to provide the programming needed for exemplary student achievement and life-long learning.

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HOW SHOULD THE WEIGHTS BE SET?

Once the ideal set of factors for the Complexity Index has been chosen, what weights should be used for each? The ideal approach would be to base the weights on how much funding is needed to ensure that students in each at-risk category can achieve at a level acceptable to policymakers. This would require a definition of acceptable academic achievement for students, and information about the amount of resources needed to enable students to reach this level. Adequacy studies in education focus on this specific question, and a number of states — including Indiana — have faced lawsuits over the adequacy of educational funding. A number of approaches have been used to date to determine the cost of providing an adequate education, including the professional judgment approach, cost function approach, successful schools approach, and the best practices approach. Examples of studies that have looked at adequacy include Reschovsky and Imazeki (2000), Guthrie (2001), and Alexander (2004). However, the field has struggled to find a reliable approach for estimating the cost of providing an adequate education, and delineating how the cost varies for traditionally disadvantaged students.

A second approach for determining the weights would be to set each weight as a percentage increase in the base per-pupil funding, where the percentage increases are determined by the relative magnitudes of the effects of each factor on academic performance. This was the general philosophy behind the original weights in the ARI in Indiana. For example, if the relationship between the percentage of students on free lunch and academic performance is twice as large as the relationship between *LEP* status and academic performance, then the weight in the Complexity Index for *FreeL* should be twice as high as for *LEP*. This approach is appealing to policymakers because it does not require a definition of an adequate education or estimates of the cost of achieving an adequate education, and the approach can be implemented regardless of the level of financial resources in the state for education. While this approach may help reduce the achievement gaps between groups of students, there is no guarantee that the funding system will enable all students to achieve at an acceptable level because the weights do not reflect how much additional money is needed to equalize educational outcomes.

COMPLEXITY INDEX AND PER-PUPIL FUNDING

After determining the factors and weights for the Complexity Index, decisions have to be made about how to translate this into funding for school corporations. In the state's current funding formula, the foundation grant for each school corporation is set equal to the base per-pupil foundation level multiplied by the Complexity Index and the adjusted enrollment count for the corporation. The adjusted enrollment count is a weighted average of enrollments for the preceding five years, and is an overlay provision that helps protect school corporations with falling enrollments from experiencing large declines in revenues over a short period of time.

Another complicating factor in the state's funding formula is that prior to 2005, each school corporation's total revenue was determined by the maximum of the foundation grant, the minimum guarantee (which increased the previous year's funding by a set percentage), and the variable grant (which was the prior year's revenue per pupil times the current enrollment). This meant that changes in the Complexity Index for a school corporation may not produce changes in funding if the corporation was not funded under the foundation grant option. The minimum guarantee and variable grant options were added to the state's funding formula to help protect school corporations with declining enrollments from experiencing large declines in revenues. However, the inclusion of these two options can weaken the relationship between the Complexity Index factors and per-pupil funding.

CEEP has examined the relationships between per-pupil funding in Indiana and the Complexity Index factors, and found that the actual distributions vary considerably from what would be prescribed by the weights in the CI. For example, we found that the revenue increases given for the factors *NoHS*, *FreeL*, and *LEP* were notably smaller than what were intended in the funding formula. In contrast, the state's funding formula provides more revenues per pupil than intended for the factors *Pov* and *OneP*. These differences are attributed to the use of overlay provisions in the funding formula, such as the multiple options for calculating total revenue, and the fact that the Complexity Index is used to calculate base funding for each school corporation.

FINDINGS AND RECOMMENDATIONS

Overall, Indiana has made significant efforts to meet the funding needs of at-risk students through changes in its funding formula. The Complexity Index is a noble attempt to direct more education dollars to school corporations with higher need, and has the potential to reduce the achievement gaps between groups of students. However, it is important to review continually the way in which the funding formula is working, and determine if modifications should be made based on new information.

CEEP's recent analyses of the funding formula and the Complexity Index have identified several concerns that should be of interest to policymakers in the state. The first is that the additional dollars allocated to school corporations for the five at-risk factors in the Complexity Index are quite different from what is prescribed by the weights for these factors. This is due to the use of multiple overlay provisions in the school funding formula, and the fact that adjustments for the factors in the Complexity Index are made prior to the imposition of the overlay provisions. The second finding of note is that CEEP has found that only three of the five Complexity Index factors have statistically significant relationships with student performance on the ISTEP+ exam after taking into account the effects of the other factors in the Index. In addition, most of the variance in student ISTEP+ pass rates explained by the Complexity Index can be attributed to only one of these five factors: the percentage of students receiving free lunch.

What changes might be considered to address these issues? The first would be to eliminate the various overlay provisions in the state's funding formula. Although the state made strides in 2005 to do this by eliminating the minimum guarantee option, other overlay provisions still exist in the formula. These include the continued use of two alternatives to the foundation grant (the variable grant and the transition to the foundation grant), the imposition of a floor on the variable grant option, and the use of weighted average enrollments in determining the foundation grant. It is unlikely that all of these overlay provisions would be eliminated in the near future due to the large impact that this would have on the revenues of selected corporations, and the political process by which changes in the formula are made.

The second consideration would be to adjust the school funding formula so that the Complexity Index is independent of the overlay provisions. Essentially, each of the components in the Complexity Index would receive separate categorical funding as is currently done for special education, vocational education, and Academic Honors. The overlay provisions would still affect the baseline funding given to school corporations, but would not affect the additional funding that they would receive for the at-risk factors. This would return the state to the procedure used with the At-Risk Index. The state could determine the amount of additional dollars directed to school corporations for each factor through the weights in the Index, and then assign categorical funding for each factor. CEEP is currently working on a study that would illustrate how this would work.

Finally, the state might consider reducing the set of factors used in the Complexity Index. The census factor for poverty could be eliminated from the Index with little or no impact on student performance, due to its high correlation with the percentage of students receiving free lunch. Likewise, the evidence suggests that there is no relationship between the percentage of non-English speaking students and the aggregate ISTEP+ pass rate in school corporations after taking into account the other factors in the model. However, the elimination of the LEP category would likely be politically unattractive given that the legislature allocates such a small amount (\$700,000 statewide) for non-English speaking programs. An argument could also be made for only using one factor — *FreeL* — in the Complexity Index because of the substantial impact that this factor has on the ISTEP+ pass rate relative to the other four factors in the Index. Future work by CEEP may also uncover evidence that other factors, such as the racial/ethnic composition of school corporations, should be added to the Index.

END NOTE

¹ An additional upward adjustment is made to the Complexity Index when the resulting value for a school corporation exceeds 1.25. The adjustments generally range between 0.02 and 0.04, and only affected 8 of the 292 school corporations in Indiana. As a result, the weights shown here are slightly lower than what would be true if the additional adjustment could be taken into account. More details on this adjustment can be found in the *Digest of Public School Finance in Indiana 2005-07* (Indiana Department of Education, 2005).

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Exhibit C

Funding At-Risk Students: Re-examining Indiana's Approach

March 23, 2007

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Overview

- Lake Central lawsuit in 1980s compelled Indiana to provide more funding to districts for at-risk students.
- Foundation program modified in 1993 with At-Risk Index (ARI) – categorical funding
- ARI replaced by the Complexity Index. Per-pupil foundation level weighted by CI. No longer categorical funding.



Performance Gaps Persist in Indiana

Table 1: ISTEP+ Pass Rates for 3rd and 6th Grade Students by Category, Fall 2006

Student Category	Percentage Passed 3 rd Grade English	Percentage Passed 3 rd Grade Mathematics	Percentage Passed 6 th Grade English	Percentage Passed 6 th Grade Mathematics
General Education	79%	76%	78%	86%
Special Education	48%	51%	30%	46%
Proficient in English	75%	73%	72%	81%
Limited Proficiency in English	45%	51%	37%	59%
Paid Lunch	83%	81%	80%	87%
Free or Reduced price lunch	62%	61%	56%	68%
Non-Hispanic White	79%	77%	76%	84%
Asian	79%	82%	79%	90%
Hispanic	54%	57%	52%	68%
Non-Hispanic Black	56%	53%	51%	61%

Source: Indiana Department of Education. Results show the percentages of students in each category scoring either "pass" or "pass +" on the statewide ISTEP+ test.

Research Questions

1. Does the CI include the right factors?
2. Does the CI use the correct weights for each factor?
3. Does the state's foundation program effectively distribute revenues for at-risk factors?

The answer to each question is decidedly "no"



Indiana's Complexity Index

1. NoHS = % of adults in the district with less than a HS ed
2. OneP = % of single-parent families in the district
3. Pov = % of adults in the district below poverty level
4. FreeL = % of students in the district receiving free lunch
5. LEP = % of students with limited English proficiency
 - First three variables identified by state lawmakers in 1993
 - FreeL and LEP added in 2003
 - CI ↑ as % at-risk students ↑

$$CI_j = 1 + \beta_1 * NoHS_j + \beta_2 * OneP_j + \beta_3 * Pov_j + \beta_4 * FreeL_j + \beta_5 * LEP_j$$



Correlations

Table 3. Correlations between Complexity Index Factors and ISTEP+ Pass Rate

Factor	<i>ISTEP+</i>	<i>NoHS</i>	<i>OneP</i>	<i>Pov</i>	<i>FreeL</i>	<i>LEP</i>
<i>ISTEP+</i>	1.00	-----	-----	-----	-----	-----
<i>NoHS</i>	-0.50	1.00	-----	-----	-----	-----
<i>OneP</i>	-0.70	0.30	1.00	-----	-----	-----
<i>Pov</i>	-0.64	0.55	0.67	1.00	-----	-----
<i>FreeL</i>	-0.82	0.54	0.79	0.81	1.00	-----
<i>LEP</i>	-0.27	0.28	0.24	0.18	0.35	1.00

- Negative correlations of CI factors and ISTEP+ pass rates
- Positive correlations among CI factors



Table 4. Estimated Relationships between Complexity Index Factors and ISTEP+ Pass

Rates, Fall 2005

Variable	Model A	Model B	Model C	Model D	Model E	Model F	Model G	Model H	Model I	Model J
<i>NoHS</i>	-0.635** (.065)	-----	-----	-----	-----	-0.332** (.058)	-0.312** (.060)	-0.136** (.051)	-0.140** (.052)	-0.183** (.053)
<i>OneP</i>	-----	-0.785** (.047)	-----	-----	-----	-0.589** (.057)	-0.573** (.058)	-0.198** (.061)	-0.197** (.061)	-0.221** (.061)
<i>Pov</i>	-----	-----	-1.111** (.079)	-----	-----	-0.253** (.101)	-0.271** (.102)	-----	-----	0.279** (.104)
<i>FreeL</i>	-----	-----	-----	-0.633** (.026)	-----	-----	-----	-0.482** (.048)	-0.487** (.048)	-0.567** (.056)
<i>LEP</i>	-----	-----	-----	-----	-0.574** (.121)	-----	-0.111 (.086)	-----	0.050 (.075)	0.103 (.077)
Intercept	76.76** (1.28)	83.01** (1.13)	74.42** (.77)	77.77** (.59)	66.24** (.54)	86.80** (1.30)	86.42** (1.33)	81.78** (1.21)	81.84** (1.21)	82.31** (1.21)
F-ratio	94.15**	277.71**	199.45**	604.56**	22.43**	137.91**	104.09**	214.82**	160.91**	133.02**
R-squared	0.25	0.49	0.41	0.68	0.07	0.59	0.59	0.69	0.69	0.70

Notes: ** significant at the 1% level. * significant at the 5% level. Data are for 289 public school corporations in Indiana.

- Each factor separately has a negative association with ISTEP+
- In Model J, only 3 of 5 factors have negative and significant associations
- Model with FreeL fits data better than Pov (Model H)
- FreeL accounts for most of the explained variance in ISTEP+

Table 5: Relationships of Additional Factors with ISTEP+ Pass Rates, Fall 2005

Variable	Model K	Model L	Model M	Model N	Model O	Model P
<i>NoHS</i>	+0.146** (.056)	-----	-----	-----	-----	-----
<i>OneP</i>	-0.226** (.055)	-0.249** (.054)	-0.174** (.057)	-0.171** (.057)	-0.128* (.056)	-0.127* (.056)
<i>FreeL</i>	-0.451** (.044)	-0.407** (.041)	-0.399** (.040)	-0.385** (.041)	-0.302** (.044)	-0.307** (.045)
<i>ReducL</i>	-0.208* (.099)	-0.199* (.100)	-0.196* (.098)	-0.189 (.097)	-0.248** (.095)	-0.247** (.095)
<i>NoBaMa</i>	-0.295** (.038)	-0.240** (.032)	-0.267** (.032)	-0.266** (.032)	-0.321** (.033)	-0.297** (.048)
<i>NoM126</i>	-----	-----	-0.361** (.098)	-0.377** (.097)	-0.246* (.099)	-0.251* (.100)
<i>SpEd</i>	-----	-----	-----	-0.145* (.066)	-0.232** (.068)	-0.224** (.069)
<i>Minor</i>	-----	-----	-----	-----	-0.113** (.027)	-0.110** (.027)
<i>Asian</i>	-----	-----	-----	-----	-----	+0.197 (.281)
Intercept	103.40** (2.80)	100.99** (2.67)	105.32** (2.86)	107.79** (3.06)	111.68** (3.11)	109.41** (4.49)
F-ratio	177.63**	216.02**	183.24**	155.50**	143.92**	125.76**
R-squared	0.76	0.75	0.76	0.77	0.78	0.78

Notes: ** significant at the 1% level. * significant at the 5% level. Data are for 289 public school corporations in Indiana.

Complexity Index Weights

Complexity Index Factor	Weight	Formula for Weight
Percent of adults w/o a high school education (<i>NoHS</i>)	0.2256	= \$1,019 / \$4,517
Percent of single-parent families (<i>OneP</i>)	0.1233	= \$557 / \$4,517
Percent of families below the poverty level (<i>Pov</i>)	0.0768	= \$347 / \$4,517
Percent of students receiving free lunch (<i>FreeL</i>)	0.2747	= \$1,260 / \$4,517
Percent of students with limited English proficiency (<i>LEP</i>)	0.1001	= \$452 / \$4,517

- Weights set each biennium by Legislature – not based on adequacy or associations with performance
- Weights in CI differ substantially from original weights in ARI (*OneP* and *Pov* had largest weights in ARI)
- Weights in CI for factors differ from associations with performance (exception: *FreeL*)



9

Weights Using “Proportionality Rule”

Table 8: Illustration of Setting of Complexity Index Weights Using Proportionality Rule

Factors in Complexity Index	Association with ISTEP+ Pass Rates	Association with ISTEP+ Pass Rates Relative to <i>NoBaMa</i>	Weight in Complexity Index if <i>MDP</i> = \$1000	Weight in Complexity Index if <i>MDP</i> = \$2000
<i>NoBaMa</i>	0.321	1.000	0.2000	0.4000
<i>FreeL</i>	0.302	0.941	0.1882	0.3763
<i>ReduL</i>	0.248	0.773	0.1545	0.3090
<i>NoMI26</i>	0.246	0.766	0.1533	0.3065
<i>SpEd</i>	0.232	0.723	0.1445	0.2891
<i>OneP</i>	0.128	0.399	0.0798	0.1595
<i>Minor</i>	0.113	0.352	0.0704	0.1408
Foundation Level Per Pupil (<i>FL</i>) =			\$5000	\$5000
Maximum Dollar Premium (<i>MDP</i>) =			\$1000	\$2000
Maximum Percentage Premium (<i>MDP/FL</i>) =			20%	40%



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CI Factors and Per-Pupil Funding

May not be a one-to-one relationship between CI components and per-pupil funding:

1. Formula uses weighted average of past enrollments
2. FG had a cap and a floor (2% of previous year's \$/pupil times current enrollment)
3. Formula had two alternative options to FG:
 - Variable grant = last year's revenue/pupil times current enrollment
 - Minimum guarantee grant = last year's revenue plus 1%
 - Total revenue = Max[FG, VG, Min Guarantee]
 - Growing reliance on Min Guarantee (31% in 2000, 79% in 2004)

Changes were made in overlay provisions in 2005, but several remain in the state's formula



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Correlations of CI Factors and Per-Pupil Revenues

Table 9: Correlations of Per-Pupil Revenues with Indiana's Complexity Index Factors, 2005-07

Complexity Index Factor	Correlation with Per-Pupil Revenues		
	2005	2006	2007
% Adults in 2000 who Did Not Graduate from High School (<i>NoHS</i>)	+0.335	+0.362	+0.387
% Single-Parent Families in 2000 (<i>OneP</i>)	+0.478	+0.505	+0.520
% Population in 2000 Below Poverty Level (<i>Pov</i>)	+0.547	+0.580	+0.608
% Students Receiving Free Lunch in 2004 (<i>FreeL</i>)	+0.528	+0.567	+0.593
% Students with Limited English Proficiency in 2005 (<i>LEP</i>)	+0.102	+0.116	+0.121

Notes: Data are for 292 public school districts in Indiana. Per-pupil revenues for each year represent the total revenues designated for the General Fund of each school district through the state's foundation program, divided by actual or projected enrollments for the fall semester of each year. The data for the variables *NoHS*, *OneP*, and *Pov* were obtained from the 2000 U.S. Census. The data for the variables *FreeL* and *LEP* were obtained from each school district for the most current years available (2004 for *FreeL* and 2005 for *LEP*).



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Table 9: Summary of Prescribed and Actual Associations between Complexity Index Factors and Per-Pupil Revenues, 2007

Complexity Index Factor	Weights Used in Complexity Index 2007	Prescribed Associations from the Complexity Index, 2007	Actual Association with Per-Pupil Revenues 2007	Ratio: Actual to Prescribed Association with Per-Pupil Revenues
<i>NoHS</i>	0.2233 (= \$1,019 / \$4,563)	+10.19	+5.93	+58.2%
<i>OneP</i>	0.1221 (= \$557 / \$4,563)	+5.57	+9.47	+170.0%
<i>Pov</i>	0.0760 (= \$347 / \$4,563)	+3.47	+34.52**	+994.8%
<i>FreeL</i>	0.2761 (= \$1,260 / \$4,563)	+12.60	+10.54*	+83.7%
<i>LEP</i>	0.0991 (= \$452 / \$4,563)	+4.52	-7.85	-173.7%

Notes: ** statistically significant at the 1% level. * statistically significant at the 5% level. *NoHS* = percentage of the school district's population in 2000 ages 25 and older with less than a 12th grade education. *OneP* = percentage of families in the school district in 2000 with a single parent. *Pov* = percentage of families in the school district in 2000 with incomes below the poverty level and with children under the age of 18. *FreeL* = percentage of students in the school district in 2004 who are receiving free lunch. *LEP* = percentage of students in the school district in 2005 who have been identified as having limited proficiency in English.

Recommendations

1. Change factors used in the CI
 - Drop Pov, LEP
 - Simplify CI to only include FreeL
 - Add new components associated with ISTEP+
2. Make weights proportional to associations with performance
 - Pursue adequacy research to better estimate weights
3. Move CI factors to categorical funding items
 - At-risk funding would not be affected by overlay provisions



Addendum

- House version of budget bill calls for CI to be limited to FreeL+ReducL
- Weight for FreeL+ReducL in 2008 is \$2,800 per pupil or $CI = 1 + 0.5895(\text{FreeL} + \text{ReducL})$
- Formula still retains several overlay provisions
- CI still part of foundation grant...but LEP may be moved to categorical funding
- The Senate will craft their own budget, and then must compromise with House on final budget



Exhibit D

EFFECTS OF BACKGROUND AND POLICY VARIABLES ON SCHOOL PERFORMANCE IN INDIANA

September 22, 2006

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1 Introduction

1.1 Regression Task Team

The 2003 Indiana General Assembly established the Government Efficiency Commission to provide the General Assembly and the Governor with recommendations for improving overall efficiency and reducing waste and other unnecessary costs in state government. One of the charges given to the Commission was to investigate the efficiency of public education financing in the state. To this end, the Commission established the K-12 Education Subcommittee to focus on ways to improve efficiencies in the delivery of education services. Some members of the Subcommittee wished to investigate the workings of the Foundation Program (i.e., the school funding formula) in more detail, and in particular, examine the relationship between various categories of K-12 education expenditures and student achievement. Consequently, the Subcommittee contacted the Center for Evaluation and Education Policy (CEEP) at Indiana University to provide statistical assistance with examining the ways in which education financing may affect the performance of students in Indiana's public school corporations. From this collaboration the Regression Task Team was formed, whose membership was open to all interested agencies. The following organizations were given opportunities to review and comment on preliminary reports that were presented to the Task Team: Indiana Urban Schools Association, Indiana Association of School Principals, Indiana State Teachers Association, Indianapolis Public Schools, Indiana Education Institute, Sagamore Institute, Indiana Department of Education, fiscal analysts for the House Ways and Means Committee, fiscal analysts for

the Senate majority and Senate minority, Legislative Services Agency, State Budget Agency, and Crowe Chizek. Members of the K-12 Education Subcommittee and the Center for Evaluation and Education Policy were present at all meetings.

After reviewing data availability and discussing the suitability of an array of variables, the Task Team identified factors that could be related to student performance and grouped them into two main categories: (a) those that can potentially be affected by school corporations and/or state policymakers (labelled “policy factors”), and (b) those that are beyond the control of school corporations and/or state policymakers but may, nonetheless, affect student performance (labelled “background factors”). The distinction is important because failure to account for the effect of background factors on school corporation performance could give rise to misleading interpretations of the effect of policy factors. The Task Team discussed and agreed upon the data sources and data elements that were to be used in this study. The data were obtained from the Indiana Department of Education and are available to the public on the Indiana Department of Education website.

The next section of the report provides some information on education in Indiana in order to help set the context for the analyses that follow. We will review selected trends and findings and describe how they have motivated the approach used here. The numbers, however, are meant to be illustrative of particular issues and are not central to the analysis. When appropriate we refer readers to other sources for more detailed discussion.

1.2 The Policy Question

What are the specific factors that impact student achievement in K-12 education? This question is of utmost importance to many policymakers around the nation. Confronted with competing demands for scarce tax dollars, states increasingly are seeking information about the quality of existing educational structures as well as what course(s) of action

might improve student learning. In particular, the attention of policymakers often focuses on the effects of financial resources on educational effectiveness. Does the level of spending on K-12 education have a positive effect on student gains? Can student achievement be raised by reallocating education dollars towards certain activities such as classroom instruction? Do some factors beyond the control of schools, such as the socioeconomic status of a community, also affect student performance?

These questions are of particular importance to the State of Indiana. Prior to the “No Child Left Behind” act in 2001, Indiana passed legislation (P.L. 221) in 1999 that established aggressive performance targets for school corporations based on the percentages of students passing the state exam (ISTEP+). Aggregate data suggest that the state has made some progress over time in raising student achievement levels:

- The percentage of students (public and nonpublic) passing both the English and Mathematics portions of the ISTEP+ exam has increased from 53.7 percent in 1996-97 to 64.1 percent in 2005-06;¹
- The percentage of 12th graders in public schools who have taken the Scholastic Aptitude Test (SAT), a requirement for applying to many postsecondary institutions, has increased from 51 percent in 1995-96 to 55 percent in 2004-05;²
- The average scaled scores in both reading and mathematics from the National Assessment of Educational Progress (NAEP) test for Indiana’s 4th graders exceed both the national averages and the averages for neighboring states Illinois, Kentucky, and Michigan;³
- The percentage of public high school graduates in Indiana who pursue a college education has risen from 59 percent in 1995-96 to 74 percent in 2004-05.⁴
- The percentages of Indiana students receiving academic honors or Core 40 diplomas have risen steadily since the late 1990s.⁵

1. Source: Indiana Department of Education. Retrieved July 28, 2006 from http://mustang.doe.state.in.us/TRENDS/trends1.cfm?var=es_skill

2. Source: Indiana Department of Education. Retrieved July 28, 2006 from http://mustang.doe.state.in.us/TRENDS/trends1.cfm?var=sat_pct

3. National Center for Educational Statistics (2005). *Digest of Educational Statistics*, Retrieved July 20, 2006 from <http://nces.ed.gov/programs/digest/>

4. Source: Indiana Department of Education (n.d.). Retrieved July 20, 2006 from <http://www.doe.state.in.us/>

- The average SAT math and verbal scores of Indiana seniors have increased slightly during the past 10 years.⁶

Despite these positive signs, many policymakers remain concerned about the state of education in Indiana. While the increase in ISTEP+ pass rates in recent years is encouraging, nonetheless, current rates remain far below the even higher pass rates specified in P.L. 221 for future years. The pass rates for public school corporations — and thirty-six subgroups within each corporation — are specified to increase on a graduated scale until they reach 100 percent by 2014. Preliminary data reported by the state for 2004-05 suggest that one in ten Indiana high school seniors do not graduate from high school, and the true drop-out rate is likely higher than this figure. Recent reports state that Indiana's graduation rate lags that of 27 other states.⁷ The ISTEP+ pass rates for Indiana students are considerably lower for students in traditionally-underrepresented racial/ethnic categories, students receiving Special Education services, and students in lower socioeconomic categories. The pass rates for the mathematics portion of the ISTEP+ in 2005, for example, were highest for Asian/Pacific Islander students (87%), followed by white (78%), multiracial (69%), American Indian (68%), Hispanic (57%), and black (55%) students. Likewise, the pass rate for Special Education students (51%) is far below the pass rate for their counterparts (78%), and students who are eligible for free or reduced price lunch pass the mathematics portion of ISTEP+ at much lower rates than other students (62% versus 81% respectively).⁸

National comparisons of educational attainment have also been a source of some concern for state policymakers. Indiana is one of only nine states in 2000 that had fewer than 20 percent of its adult population holding a bachelor's degree or higher, and Indiana ranks in

5. Smith, Victor. (2005). *A Decade Plus Five: Continued Improvement in Indiana's Public Schools*. Indianapolis: Indiana Education Services, Inc.

6. Ibid.

7. See: 27% of Indiana Students Don't Graduate (2006). *Indianapolis Star*, June 21. Greene, Jay P. & Froster, Greg. (2002). Indiana's Graduation Rate Doesn't Add Up. *Indianapolis Star*, Sept 21. Retrieved July 24, 2006 from http://www.manhattan-institute.org/html/_indstar-indianas_grad_rate.htm. Domanico, Raymond. (2002). State of the New York City Public Schools. Retrieved July 24, 2006 from http://www.manhattan-institute.org/html/cr_26.htm

8. Indiana Department of Education. Retrieved July 13 from <http://www.doe.state.in.us/istep/>

the bottom half of states in 2003 in terms of the percentage of adult population that graduates from high school.⁹ Finally, a recent report argued that Indiana has the highest school dropout rate in the nation.¹⁰

The need to continue to raise student performance in Indiana has focused interest on the possible policies — such as the level and distribution of funding for education — that might be enacted to help achieve this goal. K-12 education is a substantial enterprise in Indiana. In fiscal year 2004-05, total expenditures in K-12 public schools were about \$10.6 billion, with about \$6 billion in General Fund spending.¹¹ From the state's perspective, in fiscal year 2005-06, Education accounts for about 32 percent of all state expenditures, exceed only by Health and Human Services.¹² The vast majority of state spending on education is directed towards public K-12 education. Approximately 83 percent of General Fund revenues for K-12 public schools are provided by the state of Indiana.¹³

Aggregate data for the State of Indiana illustrate the concern among some policymakers that education spending has not been as effective as it could be for delivering education services in an efficient manner. Current expenditures per pupil in public schools have increased almost 300% from 1981-82 (\$2,319 per pupil) to 2004-05 (\$10,492 per pupil); even after adjusting for inflation,¹⁴ per-pupil spending has increased 159 percent during this same period, or an average annual increase of about 4 percent.¹⁵ Part of this spending increase has been used to raise staffing levels in public schools. Table 1 illustrates that

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9. U. S. Census Bureau. Retrieved July 18, 2006 from <http://www.census.gov/population/www/socdemo/education.html>
 10. Hupp, Staci. (2006). Dropout Rate Is the Worst. *Indianapolis Star*, July 3. Retrieved July 24 from <http://www.indystar.com/apps/pbcs.dll/article?AID=/20060703/NEWS01/607030412/1006/NEWS01>
 11. Expenditure data received January 6, 2006 from Education Information Services, Indiana Department of Education. Precise amounts may differ somewhat from other published numbers based on 293 school corporations.
 12. State Budget Agency. Retrieved July 24, 2006 from <http://www.in.gov/sba/budget/>
 13. Toutkoushian, Robert K., Michael, Robert S. (2006). *Indiana's School Funding Formula: Impact Study for 2005*. Bloomington, IN: Center for Evaluation and Education Policy at Indiana University.
 14. Inflation adjusted expenditures per pupil in 2004-05 was \$6,019, with 1982 as the base. Inflation adjustment calculator located at <http://www1.jsc.nasa.gov/bu2/inflateGDP.html>
 15. Indiana Department of Education. Retrieved July 20, 2006 from <http://mustang.doe.state.in.us/TRENDS/trends1.cfm?var=curr>. Expenditure data received January 20, 2006. See also *Report on Expenditures Per Capita* (2006) prepared by the Department of Local Government Finance. According to this report the average school expenditure per capita is \$1,778 (p. 64). Available at http://www.in.gov/dlgef/pdfs/2005_Expenditures_Per_Capita_Report.pdf

TABLE 1. Indiana Trend Data: Public School Students, Teachers, and Other Employees, 1974-75 to 2004-05¹⁶

Year	Enrollments	Number of Teachers (FTE)	Number of Other Certified Employees (FTE)	Ratio: Students to Teachers	Ratio: Students to Certified Employees
1974-75	1,186,800	52,579	7,462	22.57	159.05
1984-85	972,700	51,304	7,659	18.96	127.00
1994-95	968,357	55,239	8,965	17.53	108.02
2004-05	1,021,197	60,470	10,143	16.89	100.68

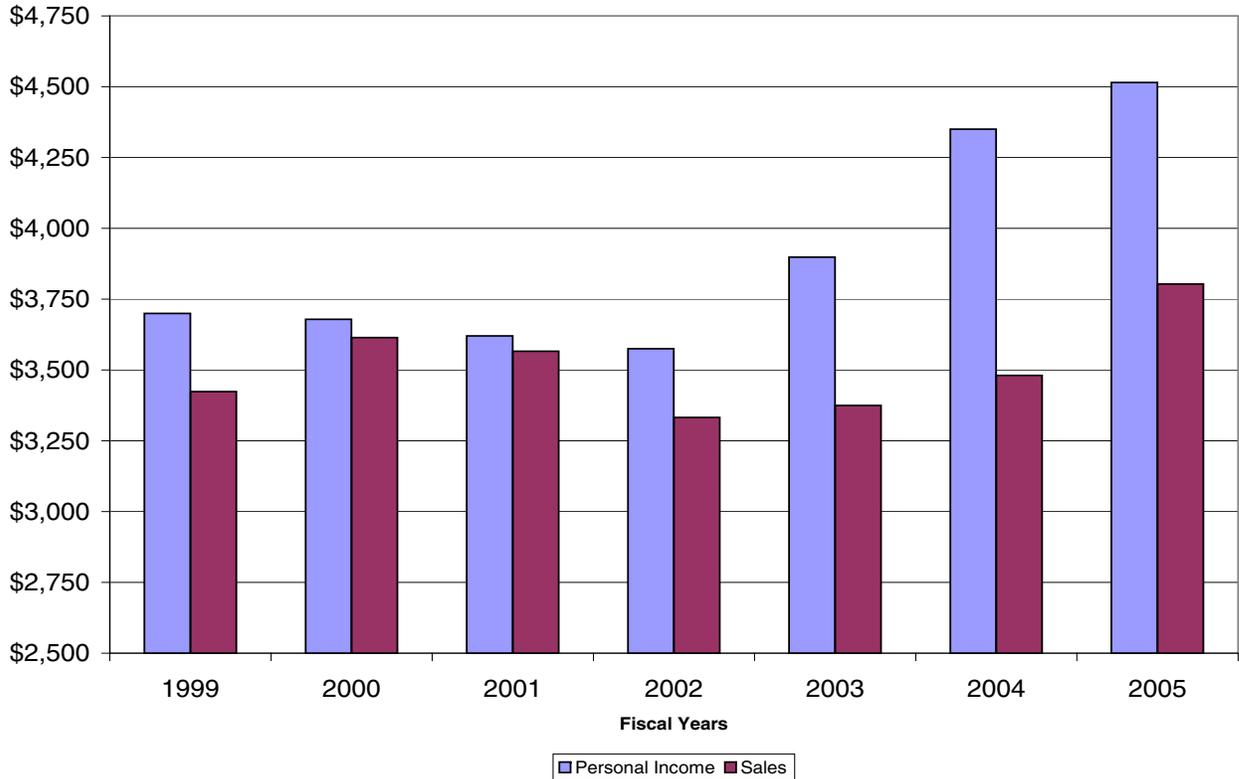
there has been a significant reduction in the ratios of students to teachers and students to administrators over the past thirty years. Specifically, the ratio of students to teachers has decreased 25 percent and the ratio of students to certified employees has decreased nearly 37 percent.

The concern about student performance and education spending comes at a time when the state of Indiana faces significant financial pressures. The downturn in the national economy beginning in 2000 had a negative effect on the tax revenues received by states that rely on income and sales taxes to fund programs. This subsequently led to budget deficits for Indiana and many other states. Figure 1 shows individual income tax and sales tax revenues in Indiana for fiscal years 1999-2005, adjusted for inflation.¹⁷ Both personal income and sales taxes began to decline in 2001 and recovery did not begin until 2003. In addition, reserve balances as a percentage of operating revenues dropped to historical lows that have only recently begun to show improvement. As a result, Indiana was faced with difficult choices regarding the types and levels of financial assistance to distribute among all of the competing demands, including K-12 education. The negative effect on tax revenues still exists as evidenced by the \$131 million budget cut made after the fiscal 2006 budget was passed.¹⁸

16. Indiana Department of Education. Retrieved July 19, 2006 from <http://mustang.doe.state.in.us/TRENDS/trends0.cfm>

17. *Indiana Handbook of Taxes, Revenues, and Appropriations*. Retrieved August 4, 2006 from <http://www.in.gov/legislative/publications/handbook.html>.

FIGURE 1. Personal Income and Sale Taxes, Fiscal Years 1999-2005 (Millions, Inflation Adjusted)¹⁹



Indiana used a variety of techniques to reduce the impact of this decline in revenue, such as moving the distribution of tuition support for K-12 education forward, and thus eliminating one distribution in fiscal 2002. The state also permitted school corporations to use revenues from other funds to help cover the daily education expenditures which are, by law, paid only from General Fund revenues. For example, school corporations could, in certain years, cover unreimbursed free textbook expenses from the Debt Services fund, and corporations were permitted, for specific years, to transfer some dollars from the Capital Projects fund to cover property insurance and utility costs. Such “outside provisions” were invoked to help local corporations meet their operating expenses when the

18. National Governors Association. (2006). *The Fiscal Survey of States*. Retrieved July 27, 2006 from <http://www.nasbo.org/Publications/PDFs/FiscalSurveyJune06.pdf>

19. Ibid.

state could not provide larger revenue increase into the General Fund of school corporations.

1.3 Overview

The remainder of this report is broken into three main sections. The first section focuses on the effects of background factors that are beyond the direct control of school corporations on their ISTEP+ pass rates. These factors would include some of the socioeconomic metrics currently used in the state's Complexity Index, as well as other factors identified by the regression Task Team. In the second section, we turn to an examination of how policy factors that can be influenced by school corporations and decision makers affect their ISTEP+ pass rates. The factors to be examined include a range of financial measures representing the level and distribution of education spending, as well as other factors such as the size of a school corporation, whether the governing board has been appointed or elected, and the experience and salary levels for teachers. The final section contains the conclusions and recommendations.

2 Effects of Background Factors on School Corporation ISTEP+ Pass Rates

Since the release of the Coleman Report,²⁰ policymakers across the nation and in Indiana have recognized that a relationship often exists between the academic performance of students and their socioeconomic status. Some of the socioeconomic factors that have been identified as having a relationship with student performance include the educational attainment, economic, and marital status of the student's family. In addition, education researchers have observed that other factors, such as a student's race/ethnicity, may also be related to their academic performance. We refer to such factors collectively as "background factors" because they are all related to a student's background and cannot be influenced by the school, the school corporation, or the state.²¹

If student performance is connected to these background factors, then a school corporation's performance will also be connected to these same background factors. For example, if students from higher-income families tend to perform better than students from lower-income families, then school corporations located in higher-income areas are also likely to perform better than school corporations in lower-income areas. Such patterns are important for policymakers to understand because school corporations are required to provide educational services to students within specific geographic areas.

Before proceeding, several caveats should be noted. First, the relationships between background factors and student performance described above are based on averages across students and do not apply to each and every individual student. Many examples of students from lower socioeconomic families who have performed very well in school can be

20. Coleman, James. (1966). *Equality of Educational Opportunity*. Washington, D.C.: U. S. Office of Health, Education, and Welfare.

21. For thicker descriptions of these factors and the controversy that surrounds them, see, for example: Dalrymple, Theodore. (2001). *Life at the Bottom*. Chicago: Ivan R. Dee Publisher. Mangum, Garth L., Mangum, Stephen L., & Sum, Andrew M. (2003). *The Persistence of Poverty in the United States*. Baltimore: John Hopkins. Ng, Jennifer C & Jury, John L. (2006). Poverty and Education: A Critical Analysis of the Ruby Payne Phenomenon. *Teachers College Record*. Retrieved July 18, 2006 from <http://www.tcrecord.org/PrintContent.asp?ContentID=12596>.

cited, as well as many examples of students from higher socioeconomic families who have not performed well.²² What is intended to be conveyed here is that, on average, a relationship appears to exist between a student's background and their academic performance. This implies that it would be more difficult for a school corporation located in a lower socioeconomic status area to achieve a specific level of performance. Second, even though schools cannot change the background factors that students bring with them to the classroom, they can — potentially — implement policies that may reduce the effects of these factors. This is the focus of the next section of this study. Finally, while the data may show relationship(s) between various background factors and student performance, these data do not permit the inference that the background factors themselves have causal effects on performance. For example, if we observe that on average students from lower-income families do not perform as well as other students, we cannot conclude that coming from a lower-income family causes students to perform poorly. The effect of low family income could reflect other unmeasured causes such as adults in those families having less discretionary time to spend with their children and help them with their school work.²³ Nonetheless, information about these relationships is important to understand when evaluating schools and educational policy proposals.

2.1 Measuring School Corporation Performance

Perhaps the most challenging aspect of any education study is to determine how to measure the performance of individual students, and hence the schools and school corporations they attend. While many parents, taxpayers, and teachers would agree that the goal of schools is to help impart knowledge to students, devising a measure that accurately captures all facets of student knowledge remains elusive. Knowledge can be divided into a

22. See Hyman, Herbert H., Wight, Charles R., and Reed, John S. (1975). *The Enduring Effects of Education*. Chicago: University of Chicago Press. and Peaker, Gilbert F. (1971). *The Plowden Children Four Years Later*. London: National Foundation for Educational Research in England and Wales.

23. For discussions of conditions necessary for causal inferences, see: Blalock, H. (1964). *Causal Inferences in Nonexperimental Research*. Chapel Hill: University of North Carolina Press. Kenny, David A. (1979). *Correlation and Causality*. New York: John Wiley. Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. New York: Houghton Mifflin.

number of different subject area categories, such as mathematics, language arts, sciences, social sciences, arts, humanities, and so on. No single test can be expected to assess all of these areas.

Standardized tests have become a widely used method for assessing student knowledge in selected areas due to the fact that most states now administer these tests to students at various grade levels to meet the requirements of the federally-imposed “No Child Left Behind” act. A number of states including Massachusetts and Indiana also require students to pass their state’s standardized test in a specific grade level in order to be eligible for graduation. Advocates argue that standardized tests provide valuable information on student performance because they are repeatable and quantifiable estimates of student knowledge in particular areas, and are uniformly applied to students across the state. Likewise, by aggregating student test scores across school corporations, standardized tests can provide one measure of the academic performance of students within a school corporation. In Indiana, the state’s standardized test is known as the Indiana Statewide Testing for Educational Progress-Plus, or ISTEP+. The ISTEP+ dates back to 1998, and is currently administered annually to all students in grades 3 through 10. The test has historically focused on two main content areas: mathematics and English/language arts.

The reliance on standardized tests, however, is often criticized by educators and other stakeholders on several grounds.²⁴ First, it is argued that standardized tests overemphasize fields such as mathematics and language arts at the expense of other subject areas. As a result, schools may divert more resources towards activities that promote student performance in mathematics and English/language arts and fewer resources towards other areas that are also an important part of a child’s overall education.²⁵ Second, the tests

24. For examples both for and against, see, Berg, R. A. (1988). Fifty reasons why student achievement gain does not mean teacher effectiveness. *Journal of Personnel Evaluation in Education*, 1, 345-363. Haladyna, Thomas M., Nolen, Susan B., and Hass, Nancy S. (1991). Raising standardized achievement test scores and the origins of test score pollution. *Educational Researcher*, 20(5), 2-7. McDonnell, Lorraine M. (2004). *Politics, Persuasion, and Educational Testing*. Cambridge: Harvard University Press. Phelps, Richard P. (Ed.) (2006). *Defending Standardized Testing*. Mahwah, N.J.: Erlbaum. Phelps, Richard P. (2003). *Kill the Messenger: The War on Standardized Testing*. Piscataway, NJ: Transaction Publishers.

themselves have been criticized as being imperfect measures of student knowledge in the content areas being covered.²⁶ Third, some have countered that standardized tests over-emphasize the memorization of facts and cannot capture higher levels of student learning that are perhaps even more important to a child's education.²⁷

Finally, a student's score on a standardized test can be influenced by socioeconomic factors that are beyond the student's control, such as the educational attainment level of their parents. Some analysts have argued that assessment systems should therefore focus on the gains made by students over time rather than their level of academic performance at a given point in time.²⁸ Another way to examine the gains in learning for students is to estimate a student's academic performance given his or her socioeconomic background, and compare this value to the student's actual performance. If the student's ISTEP+ score exceeds his or her estimated score, for example, then this suggests that the student has performed better than expected. This approach could also be applied to an entire school corporation by comparing the average performance of a corporation's students on the ISTEP+ with their estimated performance.

In this report, we use the percentage of students who passed both the mathematics and English/language arts portions of the ISTEP+ exam as the primary measure of the academic performance of students in each school corporation. Throughout the remainder of this report we refer to this as the "ISTEP+ pass rate." The ISTEP+ pass rate is appealing as a measure of school corporation performance because there are very few quantifiable

25. See Fair Test for criticism of standardized testing, <http://www.fairtest.org/k-12.htm> and Thomas, R. Murray. (2006). *High-Stakes Testing: Coping with Collateral Damage*. Mahwah, N.J.: Erlbaum.

26. See Smith, Mary L. & Pey, Patricia. (2000). Validity and accountability in high-stakes testing. *Journal of Teacher Education*, 51(5), 334-344. Kane, Thomas J. & Staiger, Douglas O. (2002). The promise and pitfalls of using imprecise school accountability measures. *Journal of Economic Perspectives*, 16(4), 91-114.

27. See Linn, Robert L., Baker, Eva L., & Dunbar, Stephen B. (1991). Complex, performance-based assessment: Expectations and validation criteria. *Educational Researcher*, 20(8), 15-21. Nickerson, Raymond S. (1989). New directions in educational assessment. *Educational Researcher*, 18(9), 3-7.

28. See Sanders, W. L., and Rivers, J. C. (1996). *Cumulative And Residual Effects Of Teachers On Future Student Academic Achievement, Research Progress Report*. Knoxville, TN: University of Tennessee Value-Added Research and Assessment Center. Wright, S. P., Horn, S. P., and W. L. Sanders. (1997) Teacher And Classroom Context Effects On Student Achievement: Implications For Teacher Evaluation. *Journal of Personnel Evaluation in Education* 1(1), 57-67. Hu, D. (2000). *The Relationship of School Spending and Student Academic Achievement When Achievement is Measured by Value-Added Scores* Ph.D. diss., Nashville, TN: Vanderbilt University.

measures of student performance that are available for this purpose, and despite its limitations, this is arguably the best available choice. The ISTEP+ is administered in the same way at all school corporations across the state, and provides information on student knowledge in two important areas of K-12 education: mathematics and English/language arts. We will also examine the differences between each corporation's actual and estimated ISTEP+ pass rate to help understand how background and policy-relevant variables affect this measure of corporation performance. However, it should be understood that the ISTEP+ pass rate is an imperfect measure of school corporation performance. Readers should remain aware of the concerns mentioned above regarding the limitations of this measure when interpreting the findings presented in subsequent sections.

2.2 Background Variables from Indiana's Complexity Index

To identify the background factors that may be related to school corporation performance in Indiana, we began with the set of five factors used in the state's Complexity Index. In 1993, Indiana revised its funding formula to provide additional revenues to school corporations that were located in lower socioeconomic areas of the state.²⁹ A corporation's per pupil funding level was set by multiplying the baseline per-pupil dollar amount set by the legislature (i.e., the foundation level) by what was known as the "At-Risk Index." The At-Risk Index was a number calculated by multiplying each of three factors by weights and then adding them together. The index was developed as part of Indiana's 1987 A+ school reform law (P.L. 390-1987, Section 26), which specified that the following three factors be included in the At-Risk Index:

1. the percentage of adults in the district with less than a high school education (*NoHS*);
2. the percentage of single parent families in the district (*OneP*); and

29. For a more details on Indiana's Foundation Program, see: Toutkoushian, Robert K., Michael, Robert S. (2005). Demystifying School Funding in Indiana. *Education Policy Brief*, 3(2), 1-5; 9-13. Bloomington, IN: Center for Evaluation and Education Policy at Indiana University.

3. the percentage of families in the district with dependent children and living in poverty (Pov_j);

Because the values for these variables were obtained from the U. S. Census, they could be updated only once every ten years. These factors and their original weights were selected and developed by Gridley and Peters in 1987, and were based on the correlations, or relationships, between these factors and measures of school corporation performance. The original weights were intended to reflect the strengths of the relationships between each factor and student performance, as represented by the attendance rate, the graduation rate, the average ISTEP score, and the average cognitive skills index for students in the corporation.³⁰

In 2003, the At Risk index was replaced by what is known as the “Complexity Index.” The Complexity Index differs from the At-Risk Index in that two additional factors were added to its calculation: (4) the percentage of children in each district eligible for free lunch at school ($FreeL_j$); and (5) the percentage of children in each district with limited English proficiency (LEP_j). These factors were added to the Index in part because their values could be obtained annually from school corporations and thus could capture demographic changes more quickly than the first three factors which are updated each decade. Likewise, policymakers felt that the English proficiency of students represented another important background factor that affects student performance but was not reflected in the other four factors. The Complexity Index (CI_j) is computed as follows:

$$CI_j = 1 + \beta_1 * NoHS_j + \beta_2 * OneP_j + \beta_3 * Pov_j + \beta_4 * FreeL_j + \beta_5 * LEP_j$$

with β_1 through β_5 representing the weights assigned to each variable. An additional upward adjustment is made to the Complexity Index when the resulting value for a school corporation exceeds 1.25. The adjustments generally range between 0.02 and 0.04, and

30. Gridley, B., and Peters, R. (1987). *Report to Indiana Department of Education At-Risk Functional Group* (unpublished manuscript). More details on the development of the state’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).

only affected a few school corporations in Indiana.³¹ School corporations with larger values of the five factors shown above would have larger values of the Complexity Index, and would therefore receive more money per pupil for education based on the foundation grant calculation.

The Complexity Index relies on past values of the five factors in its calculation. For example, the 2005-06 Complexity Index uses values from the 2000 U. S. Census for *NoHS*, *OneP*, *Pov*, and values from 2004-05 for *FreeL* and *LEP*. The following table shows descriptive statistics for the five factors used in the Complexity Index for 2005-06. The data are for 289 public school corporations in Indiana.³²

TABLE 2. Descriptive Statistics for Complexity Index Variables³³

Variable Name	Median	Average	Standard Deviation	Minimum Percent	Maximum Percent
NoHS ^a	18.4%	18%	6.7	2.9	61.4
OneP ^b	22.1%	23%	7.6	8.9	61.2
Pov ^c	7.4%	8%	4.9	1.1	32.1
FreeL ^d	18.1%	20%	11.1	1.9	76.4
LEP ^e	0.4%	2%	4.0	0.0	23.8

- a. NoHS = Percent of adults \geq 25 yrs with no high school education in 2000.
- b. OneP = Percent of single parent households in 2000.
- c. Pov = Percent of families with related child less than 18 yrs and income below poverty level in 2000.
- d. FreeL = Percent of students eligible for free lunch in 2003-04.
- e. LEP = Percent of students with limited English proficiency in 2004-05.

The descriptive statistics illustrate the wide variations in Complexity Index factors across school corporations. For example, the percentage of adults without a high school education varies from a low of about three percent to a high of over 61 percent. This can also

31. More details on this adjustment can be found in the *2005-07 Digest of Public School Finance in Indiana* (Indiana Department of Education, 2005). Available from <http://www.doe.state.in.us/publications/financedigest.html>

32. Corporations without complete ISTEP+ scores were excluded from this analysis. The excluded corporations follow. Dewey Township Schools (corporation number 4790) has only seven students in grade three. The Indiana Department of Education does not report ISTEP scores for less than ten students. Grade four in Dewey Township has only nine students. New Harmony Town and Township Consolidated Schools (6610) is missing ISTEP scores for grade eight. Cass Township School Corporation (4770) is missing ISTEP scores for grades nine and ten.

33. Data received from the State Budget Agency, June 2005. Due to data availability, we used *FreeL* values for 2003-04 throughout this report.

be seen in Table 3, where we report the ten highest and ten lowest school corporations in terms of their total Complexity Index:

TABLE 3. Indiana School Corporations with the Highest and Lowest Complexity Index Values,³⁴ 2005-06

School Corporation	% adults with less than a high school education (NoHS) 2000	% children eligible for free lunch at school (FreeL) 2004-05	% children with limited English proficiency (LEP) 2004-05	% single-parent families (OneP) 2000	% population below poverty level (Pov) 2000	Adjusted Complexity Index, 2006
Ten Highest Complexity Index						
School City of East Chicago	0.3939	0.7635	0.0745	0.5111	0.3078	1.5012
Gary Community School Corporation	0.2665	0.6569	0.0017	0.6416	0.3212	1.3960
Indianapolis Public Schools	0.2832	0.6553	0.0724	0.5549	0.2432	1.3866
River Forest Community Sch Corp	0.2911	0.6166	0.2023	0.4000	0.1948	1.3583
School City of Hammond	0.2441	0.6541	0.1366	0.3842	0.1813	1.3437
Lake Ridge Schools	0.2937	0.6424	0.0345	0.3763	0.1532	1.3356
Cannelton City Schools	0.2539	0.5674	0.0000	0.3939	0.2073	1.2951
Scott County School District 1	0.3706	0.4815	0.0000	0.2911	0.2358	1.2829
Lake Station Community Schools	0.2487	0.5356	0.0980	0.3156	0.1440	1.2729
Muncie Community Schools	0.2377	0.5205	0.0025	0.4030	0.2073	1.2720
Ten Lowest Complexity Index						
Carmel Clay Schools	0.0290	0.0457	0.0144	0.1078	0.0176	1.0354
MSD Southwest Allen County	0.0381	0.0416	0.0051	0.1214	0.0153	1.0369
Zionsville Community Schools	0.0520	0.0252	0.0039	0.1280	0.0280	1.0371
Hamilton Southeastern Schools	0.0333	0.0480	0.0320	0.1160	0.0166	1.0397
School Town of Munster	0.0702	0.0442	0.0088	0.1471	0.0433	1.0505
Northwest Allen County Schools	0.0666	0.0691	0.0091	0.1241	0.0152	1.0517
Porter Township School Corporation	0.0674	0.0773	0.0000	0.1034	0.0336	1.0521
Center Grove Community School Corp	0.0769	0.0655	0.0036	0.1342	0.0288	1.0547
Southern Hancock Comm. Sch Corp	0.0853	0.0650	0.0000	0.1461	0.0292	1.0576
Eastern Hancock Comm. Sch Corp	0.1293	0.0938	0.0000	0.1437	0.0161	1.0743

To begin the analysis of the effects of the Complexity Index factors on school corporation performance, in Table 4 we compare the pass rates on the combined English and

34. Data from the School Finance Application Center. Retrieved June 19, 2006 from <https://dc.doe.state.in.us/StateAid/>. Values for *FreeL* 2004-05 were copied individually for each school corporation shown here from their respective budget worksheets.

math sections of the ISTEP+ exam for school corporations that are above and below the medians for the five Complexity Index factors:

TABLE 4. Comparison of Average ISTEP+ Pass Rates for School Corporations

Factor	Average Pass Rate on ISTEP for Below Median Values	Average Pass Rate on ISTEP for Above Median Values	Difference in Pass Rates (Below average minus Above average)
% adults with less than a high school education (NoHS), 2000	69.15	61.08	8.07
% single parent families (OneP), 2000	69.02	61.10	7.92
% families with dependent children and living in poverty (Pov), 2000	69.18	60.94	8.24
% children eligible for free lunch at school (FreeL), 2003-04	70.34	59.89	10.45
% children with limited English proficiency (LEP), 2004-05	65.66	64.49	1.17

On average, school corporations with lower values of each of the Complexity Index factors tend to have higher percentages of students passing the ISTEP+ exam than do other school corporations. For example, for corporations in which the percentage of single parent families is less than the median (22 percent), the average ISTEP+ pass rate is 69 percent, compared to only 61 passing in those corporations where the percentage of single parent families is greater than 22 percent. The difference in average ISTEP+ pass rates is noticeably lower, however, for the limited English proficiency (*LEP*) variable — in fact, this difference is 6.6 times smaller than the next lowest variable (*OneP*).

One challenge in determining the impact of each Complexity Index factor on school corporation performance is that the five factors are likely to be related, or correlated, with each other. For example, school corporations that have a high percentage of students who are eligible for free lunch may also have a high percentage of single-parent families, families who are below the poverty level, and/or families in which adults have less than a high school education.

Table 5 contains the correlation coefficients for the five Complexity Index variables with each other and with the percentage of students passing both the English and math sections of the ISTEP+ exam. The ISTEP+ pass rates are from 2005-06; *NoHS*, *OneP*, *Pov* are from the 2000 U. S. Census; *FreeL* is from the 2003-04 school year; *Lep* is from the 2004-05 school year.

TABLE 5. Correlations Between Complexity Index Factors and ISTEP+ Pass Rates.

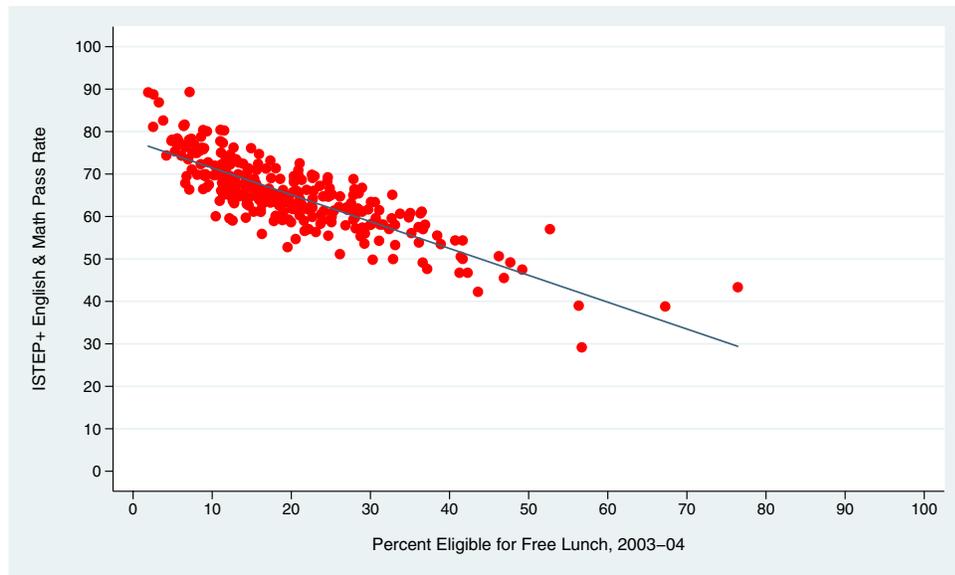
	ISTEP+	NoHS	OneP	Pov	FreeL	Lep
ISTEP+	1.00					
NoHS	-0.50	1.00				
OneP	-0.70	0.30	1.00			
Pov	-0.64	0.55	0.67	1.00		
FreeL	-0.82	0.54	0.79	0.81	1.00	
Lep	-0.27	0.28	0.24	0.18	0.35	1.00

These correlation coefficients (r) indicate the degree to which two variables move in the same or the opposite direction. Correlation coefficients can range from $r = -1.0$ to $r = +1.0$. A correlation coefficient of zero usually means no linear relationship exists, but the two variables may, nonetheless, still be related in a non-linear fashion. The closer the correlation coefficient is to either -1 or $+1$, the stronger the relationship, with a value of one indicating the strongest possible relationship. A positive correlation indicates that whenever one variable is high or low, so is the other. A negative correlation indicates that whenever one variable is high, the other tends to be low, and vice versa.

The correlations show that all of the five Complexity Index factors are negatively associated with the combined ISTEP+ pass rates for school corporations, with the strongest correlations found for the variables *FreeL*, *OneP*, and *Pov*. In addition, this table shows that the five Complexity Index variables are positively correlated with each other. Not surprisingly, the strongest positive correlation exists between the two measures of family income/wealth: *Pov* and *FreeL* ($r = +0.81$).

A scattergram is another way of showing the relationship between a pair of variables. Figure 2 shows the relationship between ISTEP+ English and Math pass rates for 2005-06, and the percent of students eligible for free lunch in 2003-04. As can be seen in Table 5, the correlation coefficient for these two variables is -0.82. The dots in Figure 2 show the intersection of these two variables for each of the 289 school corporations and the line represents the overall “line of best fit.” The figure is a visual display of a negative relationship. That is, as the percent of students eligible for free lunch increases, the percent of students passing ISTEP+ English and Math tends to decrease.

FIGURE 2. Correlation Between ISTEP+ Performance and Free Lunch.



These correlations among the Complexity Index variables suggest that some of the relationships shown earlier between performance on the ISTEP+ exam and these Complexity Index factors could be due to the overlapping relationships among the factors themselves. We therefore estimated a series of regression models to identify the relationships between each of the Complexity Index factors and the percentage of students in the school corporation who have passed both the mathematics and English portions of the ISTEP+ exam. The main regression equation that we estimated was of the form:

$$(1) \quad \text{ISTEP+} = \beta_0 + \beta_1 * \text{NoHS} + \beta_2 * \text{OneP} + \beta_3 * \text{Pov} + \beta_4 * \text{FreeL} + \beta_5 * \text{LEP} + e$$

where β_0 is the Y-intercept for the equation, β_1 to β_5 represent the effects of each of the Complexity Index factors on a school corporation's ISTEP+ pass rate while holding the other factors constant, and e = error term. As an illustration of how to interpret the results from this equation, if the regression analysis showed that $\beta_1 = +0.50$, then this would mean that as the percentage of adults in a community without a high school education increases by one percentage point — and the other variables (*OneP*, *Pov*, *FreeL*, and *LEP*) remain unchanged — the estimated percentage of students passing both sections of the ISTEP+ would increase by one-half of one percentage point. The error term includes the effects of all other factors that are related to a school corporation's performance but are not included in the model, as well as any measurement error in the variables used here.

Table 6 contains the results from the regression analysis of the Complexity Index factors on the ISTEP+ pass rates for public school corporations in Indiana. Columns A to E show the effects of each Complexity Index factor on ISTEP+ pass rates when we did not control, simultaneously, for the effects of the other four factors. In columns F through I we examine how the impact of selected factors change as we add variables to the model.

In column J, we included all five Complexity Index factors in the regression model. The models in columns F through I use various subsets of the five factors. By comparing the results across columns, we can see the extent to which overlapping relationships among the Complexity Index factors affect the inferred relationships between each of them and the ISTEP+ pass rates of school corporations.

The numbers in the table represent the estimates of the coefficients β_0 to β_5 shown in equation 1. The numbers in parentheses are the standard errors, which provide an indication of how much variability exists in these coefficient estimates. Dividing the coefficients by the standard errors yields the calculated *t*-ratio, which is used to determine if a variable

is statistically significant. If it is, the variable is said to make a significant contribution to the ISTEP+ pass rate. That is, its impact is unlikely attributable to random variation.

In this study, the t -ratio must exceed 2.575 in order for us to be 99 percent confident that a statistically significant relationship exists. Likewise, the t -ratio must exceed 1.96 to be statistically significant at the 95 percent confidence level. We use a double star to indicate when a coefficient is statistically significant at the 99 percent confidence level, and a single star for the 95 percent confidence level.

The intercept is the estimated value (i.e., the estimated ISTEP+ pass rate) when the values of all the other factors in the equation are zero.

At the bottom of each regression table are other numbers that are used to make judgments about a model. The F -statistic indicates whether or not the overall model is statistically significant. If it is not, this in effect means that β_0 through β_5 are all very close to zero and the factors in the model do not vary in any regular way (i.e., no relationship) with the variations in ISTEP+ pass rates. If the F -statistic is statistically significant, the variables in the model are said to explain, collectively, the deviations in the ISTEP+ pass rates.

The Degrees of Freedom (df) refers to the number of pieces of information that can vary independently of one another, or more specifically, the number of values free to vary when computing a test statistics such as F . This number is used to help determine if the value calculated for F is statistically significant.

The R-squared (R^2) statistic shows how much of the total deviations in the ISTEP+ pass rates can be attributed to the factors in the model. When $R^2 = 0$, none of the variations in the ISTEP+ pass rates can be attributed to the model factors. As the value of R^2 approaches one (its maximum value) we can say that more and more of the variations in ISTEP+ pass rates are due to the factors included in the model. $1-R^2$ indicates the amount of variation that remains unexplained by the model.

TABLE 6. Effects of Complexity Index factors on ISTEP+ Pass Rates, Fall 2005

	A	B	C	D	E	F	G	H	I	J
1 NoHS ^a	-0.635** ^b (0.065)	—	—	—	—	-0.332** (0.058)	-0.312** (0.060)	-0.136** (0.051)	-0.140** (0.052)	-0.183** (0.053)
2 OneP ^c	—	-0.785** (0.047)	—	—	—	-0.589** (0.057)	-0.573** (0.058)	-0.198** (0.061)	-0.197** (0.061)	-0.221** (0.061)
3 Pov ^d	—	—	-1.111** (0.079)	—	—	-0.253** (0.101)	-0.271** (0.102)	—	—	0.279** (0.104)
4 FreeL ^e	—	—	—	-0.633** (0.026)	—	—	—	-0.482** (0.048)	-0.487** (0.048)	-0.567** (0.056)
5 Lep ^f	—	—	—	—	-0.574** (0.121)	—	-0.111 (0.086)	—	0.050 (0.075)	0.103 (0.077)
6 Inter- cept	76.76** (1.28)	83.01** (1.13)	74.42** (0.77)	77.77** (0.59)	66.24** (0.54)	86.80** (1.30)	86.42** (1.33)	81.78** (1.21)	81.84** (1.21)	82.31** (1.21)
7 F ^g	94.15** (1, 287)	277.71** (1, 287)	199.45** (1, 287)	604.56** (1, 287)	22.43** (1, 287)	137.91** (3, 285)	104.09** (4, 284)	214.82** (3, 285)	160.91** (4, 284)	133.02** (5, 283)
8 dj ^h										
9 R ²ⁱ	0.25	0.49	0.41	0.68	0.07	0.59	0.59	0.69	0.69	0.70

- a. Percent Adults in 2000 who did not graduate from High School
- b. ** p <= .01
- c. Percent Single parent families in 2000
- d. Percent Families with dependent child in 2000 below poverty level
- e. Percent Students eligible for free lunch in 2003-04
- f. Percent Students Limited English Proficiency in 2004-05
- g. F-Test Statistic
- h. Degrees of Freedom for the F-Test Statistic
- i. R-Squared

The results in columns A through E show that when considered individually, each of the five Complexity Index factors exhibit negative and statistically significant relationships with the percentage of a school corporation’s students who pass both the math and English/Language Arts sections of the ISTEP+ exam. Because larger values of the Complexity Index factors are associated with lower socioeconomic status, this suggests that student performance tends to increase along with the socioeconomic status of the school corporation’s community. Column J, however, shows that substantial changes in the results occur when all five variables are examined at the same time. In particular, note that

the variable for English language proficiency (LEP) no longer has a statistically significant effect on the pass rate for both the English and math portions of the ISTEP+ exam, after subtracting the overlapping effects of the other four variables.

Likewise, the effect of the variable for poverty status (*Pov*) changes from negative in Model C to positive in Model J. This latter result is due to the high correlation between the two variables in the Complexity Index that represent family income or wealth (*Pov* and *FreeL* ($r = 0.81$)). To clarify the impact of this strong relationship between *Pov* and *FreeL*, columns F and H repeat the analysis after omitting the variable *LEP* and either *Pov* or *FreeL*. When considered in isolation from each other, each income/wealth measures has a negative and statistically significant relationship with the percentage of students passing both sections of the ISTEP+ exam.

To choose among these two models, we refer to the percentage of variation in the outcome variable (ISTEP+ pass rate) that is explained by each collection of factors. This is shown in the row with the heading R^2 . The results for models F and H show that the use of *FreeL* leads to a substantially higher R-squared value ($R^2=0.69$) than when *Pov* is used ($R^2=0.59$). Accordingly, we included only the following three Complexity Index variables — *NoHS*, *OneP*, and *FreeL* — in the set of background variables for our full analysis.³⁵

2.3 Other Background Variables.

In addition to the three Complexity Index factors identified above, the Task Team felt that other background factors may also affect student, and hence school corporation, achievement. First, the percent of students eligible for reduced lunch (*ReduL*) was added because we found, in additional analyses (cf. Table 8, p. 26), that there was a negative and statistically significant relationship between the percentage of students eligible for reduced price lunches and the ISTEP+ pass rate. This would suggest that the notion of

35. Additional analysis not included in this report show LEP has a statistically significant impact on ISTEP+ English/Language Arts pass rates ($p \leq .05$), but not on ISTEP+ Math pass rates.

financial need might be expanded to also include students who are eligible for reduced price meals.

Second, communities with higher proportions of adults who have college degrees may see higher student performance levels than do other corporations. To capture the impact of this factor, we used data from the U. S. Census Bureau on the percentage of adults ages 25 and older who have a bachelor degree or higher.

Third, the racial/ethnic composition of students in the school corporation may also be related to the corporation's performance. As reported earlier, the ISTEP+ pass rates for students in Indiana appear to vary considerably by race/ethnicity, with Asian students exhibiting the highest performance levels followed by white students and then students in other race/ethnicities. The issue of race/ethnicity takes on added importance in Indiana due to the fact that racial/ethnic subgroups within each school corporation must all meet established targets for ISTEP+ pass rates in order for the corporation to be labeled as making "Adequate Yearly Progress" (AYP). Accordingly, we used enrollment data for 2005-06 to divide students into three categories — Asian, white, and minority — and then calculated the percentage of students in each category.

Fourth, it is possible that the proportion of students requiring Special Education services may be related to the school corporation's performance level. It was noted earlier that students who receive Special Education services have lower average pass rates on ISTEP+ than non-Special Education students. Anecdotally, superintendents across the state have suggested that some school corporations have not made Adequate Yearly Progress due to the Special Education subgroup not meeting its target. To test this possibility, we calculated the percentage of students in each school corporation in 2005-06 that received Special Education services.

Finally, a school corporation's performance may also be related to the stability or mobility of students within the school corporation. School corporations vary with regard to how

likely students are to attend school on a regular basis. Such variations could be due to students moving from one school corporation to another, or students with propensities to attend school wherever they happen to be living. This is reflected in the variable mobility (M126), which is the percentage of students in 2005-06 who were recorded present at least 126 school days in the academic year. Descriptive statistics for these variables are shown in Table 7.

TABLE 7. Descriptive Statistics for Selected Variables, Indiana Public School Corporations.

Variable Name	Average	Standard Deviation	Minimum	Maximum
BaMa ^a	15.1 %	8.9	3.8	68.9
ReduL ^b	8.3%	3.1	0.0	16.9
M126 ^c	89%	3.1	74.7	97.5
SpEd ^d	19.4%	3.9	11.6	35.1
Asian ^e	0.7%	1.3	0.0	17.6
White ^f	89.7%	15.1	0.6	100.0
Minor ^g	9.6%	14.8	0.0	99.3

- a. BaMa = Percent adults in 2000 that are 25 years of age or older with a bachelors or higher degree
- b. ReduL = Percent Students in 2005-06 eligible for reduced lunch.
- c. M126 = Percent students in 2004-05 who were present at least 126 of 180 school days
- d. SpEd = Percent students in 2005-06 who received Special Education services
- e. Asian = Percent students in 2005-06 who were Asian
- f. White = Percent students in 2005-06 who were Caucasian
- g. Minor = Percent students in 2005-06 who were either Black, Hispanic, Indian, or Multiracial

These descriptive statistics show, for example, that on average a public school corporation in Indiana is located in an area where 15 percent of the adults have at least a bachelors degree. As was true for the five Complexity Index variables, the percentages for these seven variables vary greatly across the state, as indicated by the minimum and maximum values and the standard deviations.

In Table 8 we present the results from a series of regression models that examine the effects of the possible background factors on school corporation performance. The general equation for these models is the same as Equation 1 (cf. page 20) with the following

exceptions: (a) *Pov* and *LEP* are dropped, (b) *NoHS* is replaced by *BaMa*, and (c) *ReduL*, *M126*, *SpEd*, *Minor*, and *Asian* are added.

TABLE 8. Effects of Selected Background Variables on ISTEP+ Pass Rates, 2005-06.

		A	B	C	D	E	F
1	NoHS	0.146** (0.056)	—	—	—	—	—
2	OneP	-0.226** (0.055)	-0.249** (0.054)	-0.174** (0.057)	-0.171** (0.057)	-0.128* (0.056)	-0.127* (0.056)
3	FreeL	-0.451** (0.044)	-0.407** (0.041)	-0.399** (0.040)	-0.385** (0.041)	-0.302** (0.044)	-0.307** (0.045)
4	ReduL	-0.208* (0.099)	-0.199* (0.100)	-0.196* (0.098)	-0.189 (0.097)	-0.248** (0.095)	-0.247** (0.095)
5	BaMa	0.295** (0.038)	0.240** (0.032)	0.267** (0.032)	0.266** (0.032)	0.321** (0.033)	0.297** (0.048)
6	M126	—	—	0.361** (0.098)	0.377** (0.097)	0.246* (0.099)	0.251* (0.100)
7	Sped	—	—	—	-0.145* (0.066)	-0.232** (0.068)	-0.224** (0.069)
8	Minor	—	—	—	—	-0.113** (0.027)	-0.110** (0.027)
9	Asian	—	—	—	—	—	0.197 (0.281)
10	Intercept	73.86** (1.70)	76.95** (1.22)	42.54** (9.39)	43.49** (9.34)	54.95** (9.47)	54.67** (9.48)
11	F	177.63**	216.02**	183.24**	155.50**	143.92**	125.76**
12	df	(5, 283)	(4, 284)	(5, 283)	(6, 282)	(7, 281)	(8, 280)
13	R²	0.76	0.75	0.76	0.77	0.78	0.78

Pov was dropped because of its strong correlation with *FreeL* and the inclusion of *FreeL* contributes to a larger R^2 , as shown in Table 6. *LEP* was excluded because it was not statistically significant and thus did not contribute to the explanation of ISTEP+ pass rates. *ReduL* was added because it exhibits a moderate correlation with ISTEP+ pass rates and low to moderate correlations with other background variables.

As before, the coefficients shown in Table 8 represent the estimated change in the ISTEP+ pass rate due to a one percentage point change in each variable, assuming that the other variables in the model do not change.

The results in Column A are interesting in that when we added the variable *BaMa* to the equation with the three Complexity Index factors that were statistically significant, we found that the effect of the variable *NoHS* switched from negative (in Table 6) to positive.

This is most likely due to the high negative correlation between the variables *NoHS* and *BaMa* ($r = -0.65$). In Column B, we removed the variable *NoHS* and found that the model explained more of the variations in ISTEP+ pass rates than when *NoHS* was used instead of *BaMa* (75 percent versus 70 percent, Table 6, Column J). Accordingly, we used the variable *BaMa* in place of *NoHS* in the set of background factors for this study.

In columns C through F, we sequentially added the other potential background factors to the regression model; that is, Model C adds mobility, Model D adds special education, Model E adds minority, and Model F adds Asian. The results show that each of these additional factors, except Asian, had significant effects on the ISTEP+ pass rates for Indiana school corporations. In Table 8, Model F, it can be seen that as the percentage of students who stay in the same corporation for at least 126 days rises, the ISTEP+ pass rate is estimated to increase by 0.251 percent. The coefficient for the variable *SpEd* in column F (-0.224) shows that a one percentage point increase in students receiving Special Education services is associated with a 0.224 percent decrease in the corporation's estimated ISTEP+ pass rate. With regard to race/ethnicity, a one percentage point increase in the minority student population corresponds with a 0.11 percent decrease in estimated ISTEP+ pass rates. The percentage of Asian students in a corporation is not statistically significant, due to the strong correlation between *BaMa* and *Asian* ($r = 0.76$). We therefore settled on Model E as the set of background factors affecting ISTEP+ pass rate.

Comparing the overall findings from Models B and F shows that the four factors account for an additional three percent of the variation in ISTEP+ pass rates.

These results show that these seven background factors — *OneP*, *FreeL*, *ReduL*, *BaMa*, *M126*, *SpEd*, and *Minor* — each have statistically significant effects on the academic performance of students in Indiana school corporations. Collectively, these seven factors account for 78 percent of the differences in ISTEP+ pass rates that occur across school corporations in the state. This is important information for education policy makers to know because public school corporations cannot control or affect these factors, and yet they have an undeniably large influence on their ISTEP+ pass rate. The remaining 22 percent of the variations in ISTEP+ pass rates are thus affected by variables such as school spending that can be determined by policy makers, as well as other important background variables that cannot be measured.

To examine how these background variables can affect perceptions of academic performance, we calculated a range of estimated ISTEP+ pass rates for each school corporation based on the variables and their coefficients in Model E from Table 8. The estimated ISTEP+ pass rate for a single corporation is obtained as follows:

$$\begin{aligned} \text{Estimated ISTEP+} = & 54.95 - 0.128 * \text{OneP} - 0.302 * \text{FreeL} - 0.248 * \text{ReduL} + 0.321 * \text{BaMa} \\ & + 0.246 * \text{M126} - 0.232 * \text{SpEd} - 0.113 * \text{Minor} \end{aligned}$$

where “Estimated ISTEP+” = pass rate estimated by the regression equation, and the estimated coefficients for each variable. To illustrate how the estimated ISTEP+ pass rate of 43.4 is calculated for the River Forest Community School Corporation, the following equation contains the specific values for that corporation:

$$\begin{aligned} \text{Estimated ISTEP+} = & 54.95 - 0.128 * 40 - 0.302 * 52.7 - 0.248 * 13.66 + 0.321 * 3.38 \\ & + 0.246 * 83.7 - 0.232 * 18.05 - 0.113 * 41.81 \end{aligned}$$

$$\text{Estimated ISTEP+} = 43.416$$

Due to the variability in coefficient estimates, however, there will also be variation in the estimated ISTEP+ pass rates for school corporations. We therefore constructed 95 percent confidence intervals around each school corporation's estimated ISTEP+ pass rate. These intervals mean that the chances are 95 out of 100 that the true ISTEP+ pass rate will fall within the specified range. For the previous example, we can be 95 percent confident that the ISTEP+ pass rate for River Forest falls between 35 percent and 52 percent.

Compare this estimated confidence interval (low of 35 percent and a high of 52 percent), which is based on the background characteristics, to the actual pass rate of 57.02. Because the actual pass rate lies outside of the confidence interval range, this particular school corporation is clearly performing better than would be expected based on an inspection of this corporation's background characteristics.

We used the results from Model E in Table 8 (page 26) to calculate the confidence interval for the estimated ISTEP+ pass rate for each of the 289 school corporations. In Table 9 we show 10 school corporations with actual ISTEP+ pass rates that fall either near the upper boundary or above their confidence interval. Table 9 also displays 10 school corporations with actual ISTEP+ pass rates that fall either near the lower boundary or below the confidence level. The complete listing of the actual ISTEP+ pass rates and corresponding confidence levels for all school corporations, sorted by corporation number, is provided at the end of this report.

Table 9 draws attention once again to the reason for examining the relationship between the background factors that cannot be altered by the school corporation and ISTEP+ pass rates. The primary goal of this study is to identify possible relationships between school corporation characteristics, including revenues and expenditures, and school corporation

TABLE 9. Actual vs. Estimated ISTEP+ Pass Rates for Selected School Corporations, 2005-06

School Corporation	Actual ISTEP+ Pass Rate	Estimated ISTEP+ Pass Rate	95% Lower Confidence Boundary	95% Upper Confidence Boundary
Actual Score Near or Above Upper Boundary				
River Forest Community Sch Corp	57	43	35	52
School City of East Chicago	43	32	21	39
Plainfield Community Sch Corp	80	68	61	77
School Town of Speedway	68	58	50	67
Milan Community Schools	73	63	56	72
Argos Community Schools	74	66	58	74
West Central School Corporation	66	58	50	66
Beech Grove City School	70	61	53	70
Eastern Howard School Corp	81	73	65	81
Union Township School Corp	82	74	66	82
Actual Score Near or Below Lower Boundary				
Lake Station Community Schools	42	49	41	57
Southwestern Con Schools Shelby Co	64	71	63	79
Seymour Community Schools	57	64	56	72
Franklin Township Com School Corp	63	71	63	79
Crothersville Community Schools	52	61	53	69
Eminence Community School Corp	60	69	61	77
Goshen Community Schools	50	59	51	67
Rensselaer Central School Corp	55	64	56	72
M S D Shakamak Schools	50	60	52	68
Monroe-Gregg School District	59	70	62	78

academic achievement. The manner in which corporations allocate their revenues may vary among corporations, with some kinds of expenditures exhibiting a relationship with academic achievement while other kinds of expenditures do not.³⁶ However, the effect of factors that a school corporation can control may be masked by the variations in the background factors that overwhelm the corporation effects. Thus, in order to obtain accurate estimates of the effects of policy variables, we first identify and statistically subtract the

36. Bedard, Kelly & Brown, Jr., William O. (2000). *The Allocation of Public School Expenditures*. Claremont Colleges Working Papers in Economics. Retrieved August 1 from <http://econ.mckenna.edu/papers/2000-16.pdf>

effects of the background factors. Likewise, Table 9 provides a way of identifying school corporations that have higher than estimated ISTEP+ pass rates after taking into account the effects of background factors. This information may aid policymakers in deciding where to look for evidence of practices and policies that help school corporations overcome the influence of these background factors.

3 Effects of Policy Factors on School Corporation ISTEP+ Pass Rates

In this section we look at the possible impact of several school corporation factors on ISTEP+ pass rates, after controlling for the effects of background factors. The factors examined in this section can all, to some degree, be influenced by either the school corporation or by education policymakers.

We begin by examining whether the level of financial resources given to public school corporations in Indiana is related to their ISTEP+ pass rate. It would seem reasonable to presume that there is a positive relationship between the level of revenues given to school corporations and their performance. School corporations with more revenues at their disposal would be able to hire more teachers per student, acquire more and better educational materials, and implement other changes that might have a positive impact on student, and hence corporation, achievement.

Over the past thirty years, there have been numerous studies conducted to determine if “money matters.” Some of these studies have found that higher levels of education resources are associated with greater student performance, and others have concluded that higher student to teacher ratios lead to lower performance. However, as documented by the work of Eric Hanushek, the vast majority of these studies have failed to find evidence of a positive connection between educational resources, student to teacher ratios, and student achievement. The debate concerning the manner in which money is related to K-12 education achievement continues to this day.³⁷

37. See Betts, Julian R. (1995). Which Types of Public School Spending are Most Effective? New Evidence on the School Quality Debate. Discussion Paper 95-03, University of California San Diego, Department of Economics. Hanushek, Eric A. (1986) The Economics of Schooling: Production and Efficiency in Public Schools. *Journal of Economic Literature*, 24(1), 1141-1177. Hanushek, Eric A. (1996). A More Complete Picture of School Resource Policies. *Review of Educational Research*, 66(3), 397-409. Wilson, Kathryn. (2000). Using the PSID to Study the Effects of School Spending. *Public Finance Review*, 28(5), 428-451.

To examine these issues, we began by calculating the following variables for each public school corporation in Indiana:

- Ratio of students to teachers,³⁸
- Revenues per pupil for the General Fund,
- Revenues per pupil for All Funds.³⁹

Revenues per pupil in the General Fund can be directed only towards the basic operations and programs of the school corporation. This includes salaries for teachers, administrators, and other personnel, as well as other costs associated with the day-to-day operations of running schools. While the General Fund is by far the largest single fund in virtually every school corporation, there are a number of additional funds used by school corporations for specific purposes. For example, the Debt Service Fund is used to account for the receipts and expenses relating to the long-term debt of the corporation. Accordingly, we use the revenues per pupil for All Funds as an alternative measure of total education resources available to the school corporation. It is important to note, however, that under state law school corporations **cannot** transfer revenues between funds unless exceptions are permitted by the state legislature.

In Table 10 we examine how these three factors affect the ISTEP+ pass rate for Indiana school corporations. All of the models shown here (A through D) control for the effects of the set of background variables identified in the previous section of this report. In Model A, we control for only the background variables identified earlier, and thus this is the same as Model E in Table 8 (page 26). Model B adds a variable for the student to teacher ratio in each school corporation. Model C includes the per-pupil revenues for the General Fund as a policy variable. Finally, the last model in this table (D) uses the per-pupil revenues from All Funds as the measure of financial resources for education.

38. Indiana Department of Education, variable “ptrat” calculated by IDOE in corporate universe dataset. Retrieved June 14, 2006 from <http://mustang.doe.state.in.us/SAS/sas1.cfm>

39. Revenues calculated by Center for Evaluation and Education Policy. Data provided by the Legislative Services Agency. Received June 25, 2005.

TABLE 10. Effects of Student-Teacher Ratio, Target Revenue, Basic Grant on ISTEP+ Pass Rates, 2005-06

		A	B	C	D
<i>Background Variables</i>					
1	OneP	-0.128** ^a (0.056)	-0.117* (0.056)	-0.128* (0.056)	-0.128* (0.056)
2	FreeL	-0.302** ^b (0.044)	-0.299** (0.044)	-0.304** (0.046)	-0.303** (0.046)
3	ReduL	-0.248** (0.095)	-0.229* (0.096)	-0.247* (0.096)	-0.248** (0.096)
4	BaMa	0.321** (0.033)	0.320** (0.033)	0.321** (0.034)	0.321** (0.033)
5	M126	0.246* (0.099)	0.252* (0.099)	0.248* (0.100)	0.246* (0.101)
6	SpEd	-0.232** (0.068)	-0.198** (0.071)	-0.232** (0.068)	-0.232** (0.070)
7	Minor	-0.113** (0.027)	-0.117** (0.027)	-0.113** (0.027)	-0.113** (0.027)
<i>Policy Variables</i>					
8	Students per Teacher	—	0.223 (0.147)	—	—
9	Target Revenue / pupil '05^c	—	—	0.068 (0.566)	—
10	Basic Grant per pupil '05^d	—	—	—	0.006 (0.581)
11	Intercept	54.95** (9.47)	49.49** (10.10)	54.47** (10.28)	54.91** (10.35)
12	F-statistics	143.92**	126.80**	125.49**	125.48**
13	Degrees of freedom	(7, 281)	(8, 280)	(8, 280)	(8, 280)"
14	R²	0.78	0.78	0.78	0.78

a. *p <= .05

b. **p <= .01

c. Target Revenue is the amount of revenue designated for each corporation's General Fund. Coefficient is expressed in thousands of dollars.

d. Basic Grant revenue is equal to the Target Revenue plus the "categorical" dollars for enrollment growth, academic honors diploma, supplemental remediation, special education, vocational education, and Prime Time. Coefficient is expressed in thousands of dollars.

The results from Table 10 show that while the estimated coefficients for each of these three variables are positive, none of them are statistically significant at the common levels

of significance. Therefore, there is no evidence in these models that either the *level* of education revenues nor the student-to-teacher ratio are related to the ISTEP+ pass rate after removing the effects of background factors.

In the next step, we consider whether the *distribution* of education spending is related to the ISTEP+ pass rates across public school corporations. A number of education researchers, including Allan Odden, have argued that the way in which education dollars are spent is more important than the level of total spending for increasing student achievement.⁴⁰ School corporations in Indiana vary considerably in terms of how they distribute revenues among alternative uses. For example, school corporations can use added revenues either to raise teacher salaries, to hire more teachers, or some combination. Likewise, dollars earmarked for the school corporation's General Fund can be distributed between uses that are directly related to instruction and other uses such as administration and support services. Recently, some states have explored the use of the "65 Percent Solution" in which school corporations are required to allocate at least 65 percent of their revenues towards activities that pertain only to the classroom.⁴¹ Advocates of this policy hold that diverting more dollars to the classroom will have a positive impact on student achievement. However, others have countered that there is no evidence to support this contention.⁴² Significant disagreement also exists as to what uses can be categorized as "instructional expenses."

We created the following variables to examine these contentions:

- Average teacher salary in the school corporation,
- Average years of teacher experience in the school corporation,
- Instructional expenditures per pupil,

40. Odden, Allan, and Archibald, Sarah. (2001). *Reallocating Resources: How to Boost Student Achievement Without Asking for More*. Thousand Oaks, CA: Corwin Press.

41. Standard & Poor's (2006). The Issues and Implications of the "65 Percent Solution." *School Matters*. Retrieved August 06, 2006 from http://www.schoolmatters.com/pdf/65_paper_schoolmatters.pdf

42. Henderson, Michael. (2006). Education Finance Reform: A 65% Solution? Public Affairs Research Council of Louisiana. Available at <http://www.la-pra.org>

- Instructional expenditures as a percentage of the General Fund expenditures.

Teacher salary, years of experience, and students per teacher were all read directly from various datasets located on the Indiana Department of Education website. The instructional expenditure per pupil, and instructional expenditure as a percentage of the General Fund, were calculated as described earlier.

In Table 11 we examine whether each of these factors are related to the ISTEP+ pass rates across Indiana's public school corporations. Model A begins with the background factors and adds to them the variable for the average teacher base salary in the school corporation. Model B adds the student to teacher ratio to Model A, and thus tests whether the effect of average teacher salaries on ISTEP+ pass rates is affected by the ratio of students to teachers. In Models C and D, we replaced the average teacher salary variable with the average teacher experience variable to determine if the results found in Models A and B were due to teacher experience rather than teacher salaries. Finally, in Models E, F, and G we focus on whether the level or distribution of funding for instruction versus other uses has an effect on the ISTEP+ pass rates across school corporations.

Beginning with Model A, the results show that there is a positive and statistically significant relationship between the average teacher base salary level in a school corporation and the ISTEP+ pass rate. The findings in Models B through D show that when we also control for the ratio of students to teachers, or take into account the average experience level of teachers the results do not change. The estimated coefficient of 0.259 in Model A means that for each \$1,000 increase in average teacher salary, holding the background factors constant, the estimated ISTEP+ pass rate would rise by 0.259 percent. While the effect is statistically significant, the size of the effect is relatively small. To illustrate, this means that for an increase pass rate of one percent, average base salary per teacher would need to increase \$3,861. A school corporation with 100 teachers would have to spend an additional \$386,100 on teacher salaries plus benefits in order to raise their ISTEP+ pass rate by only one percentage point.

TABLE 11. Effects of Teacher Salary, Experience, and Instructional Expenditures on ISTEP+ Pass Rates, 2005-06

		A	B	C	D	E	F	G
<i>Background Variables</i>								
1	OneP	-0.131* ^a (0.055)	-0.127* (0.056)	-0.128* (0.056)	-0.117* (0.056)	-0.130* (0.056)	-0.126* (0.056)	-0.121* (0.056)
2	FreeL	-0.304** ^b (0.043)	-0.303** (0.043)	-0.303** (0.044)	-0.299** (0.044)	-0.302** (0.044)	-0.305** (0.045)	-0.319** (0.045)
3	ReduL	-0.243** (0.094)	-0.235* (0.095)	-0.246* (0.096)	-0.229* (0.097)	-0.250** (0.095)	-0.245* (0.096)	-0.223* (0.095)
4	BaMa	0.302** (0.033)	0.302** (0.033)	0.322** (0.034)	0.320** (0.034)	0.320** (0.034)	0.323** (0.034)	0.305** (0.033)
5	M126	0.271** (0.098)	0.272** (0.098)	0.246* (0.997)	0.252* (0.100)	0.249* (0.100)	0.249* (0.100)	0.291** (0.099)
6	SpEd	-0.211** (0.067)	-0.198** (0.070)	-0.231** (0.068)	-0.198** (0.071)	-0.236** (0.069)	-0.231** (0.068)	-0.198** (0.070)
7	Minor	-0.120** (0.026)	-0.122** (0.026)	-0.113** (0.027)	-0.117** (0.027)	-0.113** (0.027)	-0.113** (0.027)	-0.121** (0.026)
<i>Policy Variables</i>								
8	Avg. Salary^c	0.259** (0.080)	0.244** (0.084)	—	—	—	—	0.298** (0.091)
9	Avg. Exp^d	—	—	0.016 (0.120)	-0.002 (0.120)	—	—	—
10	S/T^e	—	0.092 (0.151)	—	0.223 (0.148)	—	—	0.035 (0.156)
11	Inst. Exp^f	—	—	—	—	0.328 (0.872)	—	—
12	Inst. Exp % Gen Fund^g	—	—	—	—	—	-0.017 (0.056)	-0.088 (0.061)
13	Intercept	41.19** (10.23)	39.72** (10.52)	54.71** (9.66)	49.51** (10.23)	53.86** (9.91)	55.50** (9.64)	41.01** (10.53)
14	F-statistics	131.53**	116.69**	125.49**	112.31**	125.56**	125.54**	105.65**
15	df	(8, 280)	(9, 279)	(8, 280)	(9, 279)	(8, 280)	(8, 280)	(10, 278)
16	R²	0.79	0.79	0.78	0.78	0.78	0.78	0.79

a. *p <= .05

b. **p <= .10

c. Average teacher base salary, in thousands of dollars.

d. Average years of teacher experience.

e. Students per teacher

f. Instructional expenditures per pupil, in thousands of dollars. Expenditure accounts 11100-14300

g. Instructional expenditures as percentage of General Fund total expenditure.

Turning to Models E through G, we see that neither the amount nor share of education dollars that are allocated to instructional activities have a significant effect on ISTEP+ pass rates after accounting for the effects of background factors. Accordingly, these models do not support the notion that directing a greater share of education spending to direct instruction would lead to gains in academic performance of students.

One limitation of the above analysis is that it compares spending for instruction to all other uses, and does not distinguish among these other uses. To examine in greater detail whether the use of education funding affects corporation performance, we created a series of variables measuring different ways of allocating General Fund expenditures to different activities. The results from these models are presented in Table 12. Model A contains the results from adding the General Fund expenditures per pupil as an explanatory variable. In Model B, we divided General Fund spending into three categories — instruction (expenditure codes 11000-16999), support services (codes 21000-26999), and all other — and added the first two factors as policy variables to Model A⁴³ In Model C, we removed administrative expenditures (codes 23000-24999) from support services and tested whether the shares of expenditures for instruction, administration, support services, and all other uses were related to ISTEP+ pass rates. We then divided the instructional expenditures into two variables — regular instruction (codes 11000-11999) and other instruction (codes 12000-16999) — and examined whether this distinction affected the ISTEP+ pass rates for school corporations in Model D.

Finally, in the last model in Table 12, we focused on whether the per-pupil spending for Debt Service and Capital Projects funds had an effect on the ISTEP+ pass rates for school corporations. Although education dollars **cannot** be moved between these funds

43. The descriptions for expenditure codes are published by the Indiana State Board of Accounts. (2005). *Indiana Public School Corporation Manual - Revised 2005*. Retrieved May 6, 2006 from <http://www.in.gov/sboa/publications/manuals/school/school05/>

Effects of Policy Factors on School Corporation ISTEP+ Pass Rates

TABLE 12. Effects of General Fund Exp. per Pupil; Instructional, Support & Administration Expenditures as Percentage of General Fund; and Debt Service plus Capital Projects on ISTEP+ Pass Rates, 2005-06

		A	B	C	D	E
<i>Background Variables</i>						
1	OneP	-0.133* ^a (0.056)	-0.136* (0.057)	-0.137* (0.057)	-0.114 (0.058)	-0.135* (0.056)
2	FreeL	-0.313** ^b (0.045)	-0.311** (0.045)	-0.309** (0.046)	-0.308** (0.046)	-0.305** (0.046)
3	ReduL	-0.242* (0.095)	-0.248* (0.098)	-0.251* (0.097)	-0.245* (0.097)	-0.245* (0.095)
4	BaMa	0.324** (0.033)	0.322** (0.034)	0.325** (0.035)	0.333** (0.035)	0.313** (0.035)
5	M126	0.261** (0.100)	0.264** (0.101)	0.271** (0.104)	0.281** (0.104)	0.267** (0.100)
6	SpEd	-0.247** (0.069)	-0.249** (0.069)	-0.248** (0.070)	-0.210** (0.072)	-0.241** (0.069)
7	Minor	-0.112** (0.027)	-0.111** (0.027)	-0.109** (0.028)	-0.106** (0.027)	-0.113** (0.027)
<i>Policy Variables</i>						
8	GF Exp / pupil ^c	0.508 (0.428)	0.573 (0.466)	0.573 (0.467)	0.702 (0.469)	0.574 (0.433)
9	Inst % GF ^d	—	-0.004 (0.066)	-0.005 (0.067)	—	—
10	Supt Svcs % GF ^e	—	-0.025 (0.071)	—	—	—
11	Admin % GF ^f	—	—	0.014 (0.155)	0.028 (0.154)	—
12	Supt Svcs % GF ^g	—	—	-0.028 (0.072)	0.039 (0.079)	—
13	Reg inst % GF ^h	—	—	—	0.119 (0.088)	—
14	Other inst % GF ⁱ	—	—	—	-0.122 (0.092)	—
15	DS+CP / pupil ^j	—	—	—	—	0.056 (0.057)
16	Intercept	51.06** (10.01)	51.45** (11.09)	50.48** (11.63)	40.37** (12.64)	49.26** (10.17)
17	F-statistics	126.29**	100.39**	90.97**	84.62**	112.36**
18	df	(8, 280)	(10, 278)	(11, 277)	(12, 276)	(9, 279)
19	R ²	0.78	0.78	0.78	0.79	0.78

-
- a. *p <= .05
 - b. **p <= .01
 - c. General Fund expenditures per pupil, 2004-05, in thousands of dollars
 - d. Instruction (11000-16999) as percentage of General Fund
 - e. Support Services (21000-26999) as percentage of General Fund
 - f. Administration expenditures (23000-24999) as percentage of General Fund
 - g. Support Services (21000-22999, 25000-26999) as percentage of General Fund
 - h. Regular Instruction expenditure (11000-11999) as percentage of General Fund
 - i. Other Instruction expenditure (12000-16999) as percentage of General Fund
 - j. Debt Service plus Capital Projects per pupil, 2004-05, in thousands of dollars

and the General Fund without permission from the state, school funding for construction projects has received considerable attention from education stakeholders. Critics have argued that Indiana ranks high nationally in terms of school construction spending, and that these dollars might be better used for direct instruction. Others have countered that it is not clear from national data how Indiana compares to other states in facilities expenditures, that many corporations are in need of building renovations due to aging facilities, and more modern facilities may even lead to improvements in academic achievement.

Perhaps the most striking aspect of this table is that none of the policy variables added to Models A through E was found to have a significant relationship with the ISTEP+ pass rates. Each of the spending categories, for example, had small estimated coefficients that were statistically insignificant. This means that holding the background factors constant, variations across school corporations in how education dollars were allocated between these categories had no bearing on school corporation performance as measured by the ISTEP+ pass rate. Likewise, the results for Model E show that the per-pupil level of spending for Debt Service and Capital Projects does not have an effect on the ISTEP+ pass rates for school corporations.

As a further check on the robustness of these findings, we examined expenditures for All Funds rather than only the General Fund and repeated the analysis above. Because we were now using All Funds, we expressed Debt Service plus Capital Projects spending as a percentage of all spending, rather than as a per-pupil expenditure. The results are shown below in Table 13. As with the previous table, we found that none of the expenditure

Effects of Policy Factors on School Corporation ISTEP+ Pass Rates

TABLE 13. Effects of Selected Expenditures as Percentage of All Expenditures on ISTEP+ Pass Rates, 2005-06

		A	B	C	D	E
<i>Background Variables</i>						
1	OneP	-0.128* ^a (0.056)	-0.135* (0.057)	-0.136* (0.057)	-0.122* (0.057)	-0.123* (0.057)
2	FreeL	-0.307** ^b (0.044)	-0.308** (0.045)	-0.305** (0.046)	-0.306** (0.045)	-0.295** (0.046)
3	ReduL	-0.242* (0.095)	-0.246* (0.097)	-0.251* (0.098)	-0.248* (0.097)	-0.251** (0.097)
4	BaMa	0.320** (0.033)	0.320** (0.034)	0.324** (0.035)	0.331** (0.035)	0.313** (0.037)
5	M126	0.257* (0.100)	0.262** (0.100)	0.276** (0.104)	0.292** (0.104)	0.298** (0.104)
6	SpEd	-0.235** (0.068)	-0.244** (0.069)	-0.244** (0.069)	-0.215** (0.071)	-0.202** (0.071)
7	Minor	-0.115** (0.027)	-0.114** (0.027)	-0.111** (0.027)	-0.106** (0.028)	-0.107** (0.028)
<i>Policy Variables</i>						
8	Exp All Funds / pupil ^c	0.165 (0.146)	0.332 (0.251)	0.346 (0.252)	0.482 (0.263)	0.586* (0.273)
9	Inst % All Exp. ^d	—	0.064 (0.091)	0.062 (0.092)	—	—
10	Supt Srvs % All Exp. ^e	—	0.023 (0.069)	—	—	—
11	Admin % All Exp. ^f	—	—	0.129 (0.219)	0.050 (0.223)	0.007 (0.224)
12	Supt Srvs % All Exp. ^g	—	—	0.007 (0.076)	0.032 (0.077)	0.048 (0.078)
13	Reg Inst % All Exp. ^h	—	—	—	0.168 (0.110)	0.204 (0.112)
14	Other inst % All Exp. ⁱ	—	—	—	-0.159 (0.156)	-0.171 (0.157)
15	DS+CP % All Exp. ^j	—	—	—	—	0.085 (0.059)
16	Intercept	52.36** (9.73)	48.10** (11.06)	46.46** (11.53)	40.34** (12.02)	36.18** (12.33)
17	F-statistics	126.22**	100.56**	91.20**	84.46**	78.43**
18	df	(8, 280)	(10, 278)	(11, 277)	(12, 276)	(13, 275)
19	R ²	0.78	0.78	0.78	0.79	0.79

- a. *p <= .05
- b. **p <= .01
- c. Total expenditure, all funds, per pupil, 2004-05, in thousand of dollars
- d. Instruction (11000-16999) as percentage of all expenditures
- e. Support services (21000-26999) as percentage of all expenditures
- f. Administration (23000-24999) as percentage of all expenditures
- g. Support services (21000-22999, 25000-26999) as percentage of all expenditures
- h. Regular instruction (11000-11999) as percentage of all expenditures
- i. Other instruction (12000-16999) as percentage of all expenditures
- j. Debt Service plus Capital Projects as percentage of all expenditures

allocation variables had a significant effect on the ISTEP+ pass rates of school corporations. Likewise, ISTEP+ pass rates were unaffected by the share of total expenditures going to the Debt Service and Capital Projects funds. It should also be noted that the R^2 values remained virtually constant across models, suggesting that the policy variables as a whole did not contribute to explaining the variation among school corporations in the ISTEP+ pass rates.

Finally, we considered whether several additional variables had an effect on the ISTEP+ pass rates of school corporations. The complete results are shown in Table 14. First, questions arose as to whether the size of the school corporation, as measured by the enrollment or average daily membership, may have an effect on school corporation performance. Policymakers in Indiana as well as other states have considered whether there were efficiency gains to be made from consolidating school corporations. In Indiana, for example, approximately 40 percent of school corporations enroll 1,500 or fewer students. If these corporations could be consolidated, the reasoning goes, then certain fixed costs of education such as central office administration, purchasing, and so on could be combined and thus reduce the per-pupil education cost. It is not clear from the literature, however, whether student performance would be affected by the size of the school corporation. Accordingly, Model B adds the enrollment level to the set of background variables used for explaining ISTEP+ pass rates.

Questions also arose within the task team as to whether the positive effect of average teacher salaries shown earlier was attributed to the relationship between average teacher

Effects of Policy Factors on School Corporation ISTEP+ Pass Rates

TABLE 14. Effects of Corp. Size; Teacher Salary, Exp; Educational Media Exp.; & School Board Appointment on ISTEP+ Pass Rates, 2005-06.

		A	B	C	D	E
<i>Background Variables</i>						
1	OneP	-0.128* (0.056)	-0.119* (0.056)	-0.134* (0.055)	-0.128* (0.056)	-0.137* (0.055)
2	FreeL	-0.302** (0.044)	-0.297** (0.044)	-0.290** (0.044)	-0.299** (0.044)	-0.304** (0.044)
3	ReduL^a	-0.248* (0.095)	-0.254** (0.095)	-0.270** (0.094)	-0.255** (0.096)	-0.247** (0.094)
4	BaMa	0.321** (0.033)	0.341** (0.036)	0.278** (0.035)	0.321** (0.033)	0.322** (0.033)
5	M126	0.246* (0.099)	0.260** (0.100)	0.289** (0.098)	0.276* (0.103)	0.242* (0.098)
6	SpEd	-0.232** (0.068)	-0.223** (0.068)	-0.221** (0.067)	-0.234** (0.068)	-0.219** (0.067)
7	Minor	-0.113** (0.027)	-0.101** (0.028)	-0.131** (0.027)	-0.111** (0.027)	-0.113** (0.026)
<i>Policy Variables</i>						
8	Adm^b	—	-0.102 (0.078)	—	—	—
9	Avg. Salary^c	—	—	0.322** (0.087)	—	—
10	Avg Exp^d (Yrs)	—	—	-0.268* (0.133)	—	—
11	Library^e Svcs.	—	—	—	-0.006 (0.006)	—
12	Board^f Appt'd	—	—	—	—	2.80** (1.067)
13	Intercept	54.95** (9.47)	53.24** (9.55)	41.46** (10.18)	54.47** (9.69)	55.11** (9.37)
14	F-statistics	143.92**	126.44**	118.13**	123.76**	129.43**
15	df	(7, 281)	(8, 280)	(9, 279)	(8, 279)	(8, 280)
16	R²	0.78	0.78	0.79	0.78	0.79

- a. Percentage eligible for reduced lunch 2005-06
- b. Average Daily Membership 2005-06 (thousands)
- c. Average teacher base salary in thousands of dollars
- d. Average teacher experience in years
- e. Educational Media services expenditure per pupil
- f. School Board members appointed.

salaries and average teacher experience. Because teacher pay schedules are directly affected by years of experience, it is possible that some corporations have higher teacher salaries simply due to having more experienced teachers. In Model C, we controlled for both average teacher base salaries and average teacher experience to determine whether each has a significant effect on ISTEP+ pass rates after taking the other into account. In the fourth model (D), we tested whether the level of per-pupil spending on Library Services had an impact on the ISTEP+ pass rates of school corporations. Finally, we tested whether the method by which the school board is chosen — appointed versus elected — is related to the ISTEP+ pass rates of school corporations.

Beginning with Model B, the results show that student performance does not appear to vary according to the size of the school corporation, as represented by the average daily membership. Accordingly, students tend to do just as well in large corporations as they do in small corporations, holding constant the background factors described earlier. With regard to teacher salaries, Model C shows that after controlling for the effects of average years of experience, which itself is statistically significant, corporations with higher average teacher base salaries tend to have higher ISTEP+ pass rates. The findings in Model D demonstrate that spending more per pupil on library services is not associated with higher ISTEP+ pass rates. Finally, we found that corporations with an appointed school board as opposed to an elected board tend to have higher ISTEP+ pass rates.

4 Conclusions and Recommendations

4.1 Conclusions

In this study, we examined the question of whether policy variables such as the level and distribution of funding to public school corporations in Indiana affect the academic performance of students. The data used in the study were assembled by the Indiana Department of Education and represent verified figures on the ISTEP+ pass rates, background factors, and policy factors for all public school corporations in the state. Because student performance has been shown to be highly correlated with student background factors, it was first necessary to estimate the effects of these background factors on performance and remove their influences prior to being able to answer questions about the effects of policy variables. These background factors, such as the educational attainment and income level of families in the corporation, have been shown in many studies across the nation to have a large influence on student performance. These factors cannot be controlled by the school corporation, and failure to take them into account could give rise to incorrect estimates of the effects of policy variables on student performance.

The results of our analysis show that the academic performance of students, as measured by the school corporation's ISTEP+ pass rate, were strongly associated with the background factors in each school corporation. Collectively, the seven background factors identified here account for seventy-eight percent of the variations in ISTEP+ pass rates across public school corporations. This indicates that student background characteristics play a very large role in explaining differences in the average student performance levels across Indiana's public school corporations. Although policymakers cannot control or change the background characteristics of students, they can implement strategies in school corporations that would aim to reduce the effects of these background factors on student performance. For example, Indiana's foundation program is intended to provide more money per pupil to school corporations in lower socioeconomic areas to help

reduce the connection between a student's background and his/her performance in school. The fact that student performance, on average, is largely determined by background factors suggests that either more financial resources are needed for traditionally-disadvantaged students, and/or new approaches to instruction are needed to help reduce the achievement gap. It is also possible that due to the use of "hold harmless provisions" in the state's foundation program (such as the Minimum Guarantee provision), the dollars that are targeted to particular student groups are not being allocated as intended (see Toutkoushian and Michael, 2006).⁴⁴

With regard to the policy variables studied here, we found little evidence that either the level of education spending or the distribution of education spending were associated with higher levels of student performance at the corporation level. After controlling for the effects of background factors, we found that the ISTEP+ pass rates in school corporations with higher-than-average per pupil expenditures were about the same as in school corporations with below-average per-pupil expenditures. The findings also show that there is no relationship between the ISTEP+ pass rate of public school corporations and the percentage of revenues that are spent on direct instruction, administration, or student support services. While these results may seem counterintuitive to policymakers who argue that spending more money on education and/or direct instruction must lead to gains in student achievement, the findings are very consistent with those from leading education researchers such as Eric Hanushek who have studied the same phenomenon in other states. Based on our findings, neither increasing the level of funding for public school corporations nor the proportion of revenues going to direct instruction would give rise to larger proportions of students scoring proficient on the ISTEP+ at the school corporation level.

44. Toutkoushian, Robert K., & Michael, Robert S. (2006). Hold Harmless Provisions in School Funding Formulas: Are they Good or Bad? Paper presented at the annual meetings of the American Education Finance Association, Denver, CO, March 22-25, 2006.

Before concluding that “money doesn’t matter,” however, it should be noted that the results pertain only to the relationship between spending and performance at the corporation level. It is quite possible that within school corporations, the level of spending can vary across schools and even across students, and that these variations may lead to differences in student performance. To test this conjecture, data would be needed on the expenditures at the school level, and breakdowns of student background factors by schools. Similarly, an analysis of individual student performance could also yield insight into this issue, but the data are not yet available for this purpose. It is also possible that the level and distribution of financial resources to education are associated with outcomes other than the ISTEP+ pass rate examined here.

At the same time, our findings show that there is a positive and statistically significant relationship between the average teacher salary in a school corporation and the ISTEP+ pass rate. The positive effect of teacher salaries on performance is even greater once we controlled for the average experience level of teachers. This is important because teacher salaries are determined by each individual’s years of experience and educational attainment. The positive relationship between teacher salaries and student performance could reflect the fact that school corporations with higher pay scales can attract better teachers. If this is the case, and more research is needed to draw definite conclusions on this point, then there may be gains to alternative teacher compensation schemes that would allow school corporations to differentiate salaries to compete for better teachers. However, it should be kept in mind that it would be very expensive to raise student performance levels only by increasing teacher salaries. The results suggest that a \$1,000 increase in average teacher salaries would lead to only a minimum increase (one third of one percent) in the ISTEP+ pass rate.

4.2 Recommendations

We have two main recommendations based on the work that was reported here:

1. *Studies are needed of the effects of policy relevant variables on student performance at both the school and student levels.* Due to data availability, our analysis focused on student performance, background, and policy factors at the corporation level. As noted earlier, it is possible that different relationships would be found between student performance and policy factors if the analyses were conducted at either the school level or the student level. This would require the creation of datasets with comparable information to that used here at the school level and the student level.

2. *More in depth investigation is warranted of those school corporations that were found to have unusually high or low ISTEP+ pass rates relative to their estimated ISTEP+ pass rates.* The analyses that we presented here examined only those factors that could be quantified and measured for each school corporation. However, this approach may overlook a number of other factors that are important determinants of student achievement, but could not be easily included in a multiple regression model. We recommend that a study be conducted of a subset of school corporations such as those shown in Table 9 that were found to have large differences between their actual and estimated ISTEP+ pass rates. Another approach would be to conduct studies of those school corporations with lower socioeconomic status and have large differences between their actual ISTEP+ pass rates and their estimated ISTEP+ pass rates. In this way, policymakers may uncover additional factors that help explain why some school corporations appear to do better or worse after adjusting for the effects of background factors on student performance. These factors could then be measured and included in an analysis similar to this to determine if the results from the case studies can be applied to the larger set of school corporations in Indiana.

5 Appendix A: ISTEP+ Actual and Estimated Pass Rates

Actual ISTEP+ Pass Rates, Estimated Pass Rates and Confidence Intervals

Sorted by Corporation Number

Corporation Number	Corporation Name	Actual ISTEP+ Pass Rate	Estimated ISTEP+ Pass Rate	95% Lower Confidence Boundary	95% Upper Confidence Boundary
0015	Adams Central Community Schools	75	73	65	81
0025	North Adams Community Schools	59	63	55	71
0035	South Adams Schools	66	69	61	77
0125	M S D Southwest Allen County	81	84	76	92
0225	Northwest Allen County Schools	78	79	71	87
0235	Fort Wayne Community Schools	53	55	47	63
0255	East Allen County Schools	63	62	54	70
0365	Bartholomew Con School Corp	66	67	59	75
0370	Flat Rock-Hawcreek School Corp	62	64	56	72
0395	Benton Community School Corp	62	61	53	70
0515	Blackford County Schools	59	62	54	70
0615	Western Boone Co Com Sch Dist	76	70	62	78
0630	Zionsville Community Schools	89	87	79	96
0665	Lebanon Community School Corp	69	66	58	74
0670	Brown County School Corporation	65	67	59	75
0750	Carroll Consolidated Sch Corp	71	69	61	77
0755	Delphi Community School Corp	63	67	59	75
0775	Pioneer Regional School Corp	64	69	61	77
0815	Southeastern School Corp	63	68	60	76
0875	Logansport Community Sch Corp	54	58	50	66
0940	West Clark Community Schools	64	68	60	76
1000	Clarksville Com School Corp	51	56	48	64
1010	Greater Clark County Schools	55	59	51	67
1125	Clay Community Schools	60	62	54	70
1150	Clinton Central School Corp	68	67	59	75
1160	Clinton Prairie School Corp	65	68	60	75
1170	Community Schools of Frankfort	56	52	44	60
1180	Rossville Con School District	75	71	63	79
1300	Crawford Co Com School Corp	61	56	48	64
1315	Barr-Reeve Com Schools Inc	76	70	61	78
1375	North Daviess Com Schools	69	65	57	73
1405	Washington Com Schools Inc	55	59	51	67
1560	Sunman-Dearborn Com Sch Corp	71	72	64	81
1600	South Dearborn Com School Corp	65	65	57	73
1620	Lawrenceburg Com School Corp	64	65	57	73
1655	Decatur County Com Schools	69	66	59	74
1730	Greensburg Community Schools	63	65	57	73
1805	DeKalb Co Eastern Com Sch Dist	61	65	57	73
1820	Garrett-Keyser-Butler Com	66	63	55	71
1835	DeKalb Co Ctl United Sch Dist	65	68	60	76
1875	Delaware Community School Corp	71	70	62	78
1885	Wes-Del Community Schools	63	66	58	74
1895	Liberty-Perry Com School Corp	67	66	58	74
1900	Cowan Community School Corp	77	73	65	81
1910	Mt Pleasant Twp Com Sch Corp	70	75	67	83
1940	Daleville Community Schools	72	71	63	79
1970	Muncie Community Schools	49	51	43	59
2040	Northeast Dubois Co Sch Corp	75	72	64	80

Actual ISTEP+ Pass Rates, Estimated Pass Rates and Confidence Intervals

Sorted by Corporation Number

Corporation Number	Corporation Name	Actual ISTEP+ Pass Rate	Estimated ISTEP+ Pass Rate	95% Lower Confidence Boundary	95% Upper Confidence Boundary
2100	Southeast Dubois Co Sch Corp	78	76	68	84
2110	Southwest Dubois Co Sch Corp	67	67	59	75
2120	Greater Jasper Con Schs	76	73	65	81
2155	Fairfield Community Schools	73	72	64	80
2260	Baugo Community Schools	62	65	57	73
2270	Concord Community Schools	62	62	54	70
2275	Middlebury Community Schools	76	71	63	79
2285	Wa-Nee Community Schools	72	69	61	77
2305	Elkhart Community Schools	48	54	46	62
2315	Goshen Community Schools	50	59	51	67
2395	Fayette County School Corp	61	58	50	66
2400	New Albany-Floyd Co Con Sch	65	65	57	73
2435	Attica Consolidated Sch Corp	65	62	54	70
2440	Covington Community Sch Corp	60	66	58	74
2455	Southeast Fountain School Corp	63	65	57	73
2475	Franklin County Com Sch Corp	62	64	56	72
2645	Rochester Community Sch Corp	69	64	56	72
2650	Caston School Corporation	63	67	59	75
2725	East Gibson School Corporation	65	67	59	75
2735	North Gibson School Corp	64	60	53	68
2765	South Gibson School Corp	70	70	62	78
2815	Eastbrook Community Sch Corp	68	70	62	78
2825	Madison-Grant United Sch Corp	62	64	56	72
2855	Mississinewa Community School Corp	63	60	52	68
2865	Marion Community Schools	51	53	45	61
2920	Bloomfield School District	67	66	58	74
2940	Eastern Greene Schools	60	64	56	72
2950	Linton-Stockton School Corp	65	65	57	73
2960	M S D Shakamak Schools	50	60	52	68
2980	White River Valley Sch Dist	61	63	55	71
3005	Hamilton Southeastern Schools	87	87	78	95
3025	Hamilton Heights School Corp	75	70	62	78
3030	Westfield-Washington Schools	78	80	72	88
3055	Marion-Adams Schools	70	68	60	76
3060	Carmel Clay Schools	89	90	81	98
3070	Noblesville Schools	80	78	70	86
3115	Southern Hancock Co Com Sch Corp	78	75	67	83
3125	Greenfield-Central Com Schools	66	69	61	77
3135	Mt Vernon Community Sch Corp	74	76	68	85
3145	Eastern Hancock Co Com Sch Corp	70	70	62	78
3160	Lanesville Community School Corp	69	73	65	81
3180	North Harrison Com School Corp	69	65	57	73
3190	South Harrison Com Schools	61	64	55	72
3295	North West Hendricks Schools	78	74	66	82
3305	Brownsburg Community Sch Corp	78	78	70	86
3315	Avon Community School Corp	78	73	65	81
3325	Danville Community School Corp	76	73	65	81
3330	Plainfield Community Sch Corp	80	69	61	77

Actual ISTEP+ Pass Rates, Estimated Pass Rates and Confidence Intervals

Sorted by Corporation Number

Corporation Number	Corporation Name	Actual ISTEP+ Pass Rate	Estimated ISTEP+ Pass Rate	95% Lower Confidence Boundary	95% Upper Confidence Boundary
3335	Mill Creek Community Sch Corp	72	69	61	77
3405	Blue River Valley Schools	68	69	61	77
3415	South Henry School Corp	65	65	57	73
3435	Shenandoah School Corporation	68	68	60	76
3445	New Castle Community Sch Corp	61	58	50	66
3455	C A Beard Memorial School Corp	68	65	57	73
3460	Taylor Community School Corp	60	62	54	71
3470	Northwestern School Corp	80	75	67	83
3480	Eastern Howard School Corp	81	73	65	81
3490	Western School Corp	72	72	64	80
3500	Kokomo-Center Twp Con Sch Corp	57	53	45	62
3625	Huntington Co Com Sch Corp	63	67	59	75
3640	Medora Community School Corp	60	61	53	70
3675	Seymour Community Schools	57	64	56	72
3695	Brownstown Cnt Com Sch Corp	69	64	56	72
3710	Crothersville Community Schools	53	61	53	69
3785	Kankakee Valley School Corp	64	65	57	73
3815	Rensselaer Central School Corp	55	64	56	72
3945	Jay School Corp	65	62	54	70
3995	Madison Consolidated Schools	65	62	54	70
4000	Southwestern-Jefferson Co Con	62	61	53	69
4015	Jennings County Schools	63	61	53	69
4145	Clark-Pleasant Com School Corp	70	69	61	77
4205	Center Grove Com Sch Corp	81	81	72	89
4215	Edinburgh Community Sch Corp	61	57	49	65
4225	Franklin Community School Corp	71	65	57	73
4245	Greenwood Community Sch Corp	72	69	61	77
4255	Nineveh-Hensley-Jackson United	67	72	64	80
4315	North Knox School Corp	63	61	53	69
4325	South Knox School Corp	65	68	60	76
4335	Vincennes Community Sch Corp	60	60	52	68
4345	Wawasee Community School Corp	62	66	58	74
4415	Warsaw Community Schools	69	67	59	75
4445	Tippecanoe Valley School Corp	59	64	56	72
4455	Whitko Community School Corp	66	66	58	74
4515	Prairie Heights Com Sch Corp	61	64	56	72
4525	Westview School Corporation	72	69	61	77
4535	Lakeland School Corporation	64	64	56	72
4580	Hanover Community School Corp	73	67	58	75
4590	River Forest Community Sch Corp	57	43	35	52
4600	Merrillville Community School	56	62	53	70
4615	Lake Central School Corp	77	75	67	83
4645	Tri-Creek School Corp	74	70	62	78
4650	Lake Ridge Schools	48	46	38	54
4660	Crown Point Community Sch Corp	76	74	66	82
4670	School City of East Chicago	43	32	23	41
4680	Lake Station Community Schools	42	49	41	57
4690	Gary Community School Corp	29	35	27	44

Actual ISTEP+ Pass Rates, Estimated Pass Rates and Confidence Intervals

Sorted by Corporation Number

Corporation Number	Corporation Name	Actual ISTEP+ Pass Rate	Estimated ISTEP+ Pass Rate	95% Lower Confidence Boundary	95% Upper Confidence Boundary
4700	Griffith Public Schools	68	65	57	73
4710	School City of Hammond	39	42	34	50
4720	School Town of Highland	68	74	66	82
4730	School City of Hobart	65	65	57	73
4740	School Town of Munster	83	79	71	87
4760	Whiting School City	54	50	42	59
4805	New Prairie United School Corp	71	70	62	78
4860	M S D of New Durham Township	66	64	56	72
4925	Michigan City Area Schools	47	52	44	60
4940	South Central Com School Corp	75	70	62	78
4945	LaPorte Community School Corp	70	65	57	73
5075	North Lawrence Com Schools	61	64	56	72
5085	Mitchell Community Schools	60	61	53	69
5245	Frankton-Lapel Community Schs	63	67	59	75
5255	South Madison Com Sch Corp	69	70	62	78
5265	Alexandria Com School Corp	58	62	54	70
5275	Anderson Community School Corp	47	53	45	61
5280	Elwood Community School Corp	53	56	48	64
5300	M S D Decatur Township	56	58	50	66
5310	Franklin Township Com Sch Corp	63	71	63	79
5330	M S D Lawrence Township	62	67	59	75
5340	M S D Perry Township	61	63	55	71
5350	M S D Pike Township	62	63	54	71
5360	M S D Warren Township	58	53	45	61
5370	M S D Washington Township	68	66	58	74
5375	M S D Wayne Township	58	53	45	61
5380	Beech Grove City Schools	70	61	53	70
5385	Indianapolis Public Schools	39	36	28	44
5400	School Town of Speedway	69	58	50	67
5455	Culver Community Schools Corp	61	60	52	68
5470	Argos Community Schools	75	66	58	74
5480	Bremen Public Schools	68	69	60	77
5485	Plymouth Community School Corp	65	63	55	71
5495	Triton School Corporation	67	66	58	74
5520	Shoals Community School Corp	61	58	50	66
5525	Loogootee Community Sch Corp	73	67	59	75
5615	Maconaquah School Corp	66	63	55	72
5620	North Miami Community Schools	65	68	60	76
5625	Oak Hill United School Corp	72	69	61	77
5635	Peru Community Schools	63	58	50	66
5705	Richland-Bean Blossom C S C	65	69	61	77
5740	Monroe County Com Sch Corp	69	73	65	81
5835	North Montgomery Com Sch Corp	71	67	59	75
5845	South Montgomery Com Sch Corp	71	67	59	75
5855	Crawfordsville Com Schools	65	59	51	67
5900	Monroe-Gregg School District	59	70	62	78
5910	Eminence Community School Corp	60	69	61	77
5925	M S D Martinsville Schools	67	66	58	74

Actual ISTEP+ Pass Rates, Estimated Pass Rates and Confidence Intervals

Sorted by Corporation Number

Corporation Number	Corporation Name	Actual ISTEP+ Pass Rate	Estimated ISTEP+ Pass Rate	95% Lower Confidence Boundary	95% Upper Confidence Boundary
5930	Mooreville Con School Corp	67	69	61	77
5945	North Newton School Corp	60	65	57	73
5995	South Newton School Corp	62	61	53	69
6055	Central Noble Com School Corp	65	66	58	74
6060	East Noble School Corp	63	65	57	73
6065	West Noble School Corporation	54	55	47	63
6080	Rising Sun-Ohio Co Com	64	69	61	77
6145	Orleans Community Schools	69	62	54	70
6155	Paoli Community School Corp	62	63	55	71
6160	Springs Valley Com School Corp	65	61	53	69
6195	Spencer-Owen Community Schools	59	61	53	69
6260	Southwest Parke Com Sch Corp	57	58	50	66
6300	Rockville Community School Corp	64	64	56	72
6310	Turkey Run Community Sch Corp	59	61	53	69
6325	Perry Central Com Schools Corp	67	69	61	77
6340	Cannelton City Schools	50	50	42	58
6350	Tell City-Troy Twp School Corp	66	66	58	74
6445	Pike County School Corp	67	62	54	70
6460	M S D Boone Township	76	71	63	79
6470	Duneland School Corporation	73	72	64	80
6510	East Porter County School Corp	78	72	64	80
6520	Porter Township School Corp	74	75	67	84
6530	Union Township School Corp	82	74	66	82
6550	Portage Township Schools	66	61	53	69
6560	Valparaiso Community Schools	80	75	67	83
6590	M S D Mount Vernon	71	66	58	74
6600	M S D North Posey Co Schools	73	70	62	78
6620	Eastern Pulaski Com Sch Corp	65	67	59	75
6630	West Central School Corp	66	58	50	66
6705	South Putnam Community Schools	68	69	61	77
6715	North Putnam Community Schools	63	63	55	71
6750	Cloverdale Community Schools	58	58	50	66
6755	Greencastle Community Sch Corp	69	66	58	74
6795	Union School Corporation	59	63	55	71
6805	Randolph Southern School Corp	59	64	56	72
6820	Monroe Central School Corp	63	66	58	74
6825	Randolph Central School Corp	65	62	54	70
6835	Randolph Eastern School Corp	57	59	51	67
6865	South Ripley Com Sch Corp	62	60	52	68
6895	Batesville Community Sch Corp	75	74	66	82
6900	Jac-Cen-Del Community Sch Corp	64	64	56	72
6910	Milan Community Schools	73	64	56	72
6995	Rush County Schools	65	67	59	75
7150	John Glenn School Corporation	66	66	58	74
7175	Penn-Harris-Madison Sch Corp	79	77	69	85
7200	School City of Mishawaka	61	56	48	64
7205	South Bend Community Sch Corp	46	51	42	59
7215	Union-North United School Corp	66	66	58	74

Actual ISTEP+ Pass Rates, Estimated Pass Rates and Confidence Intervals

Sorted by Corporation Number

Corporation Number	Corporation Name	Actual ISTEP+ Pass Rate	Estimated ISTEP+ Pass Rate	95% Lower Confidence Boundary	95% Upper Confidence Boundary
7230	Scott County School District 1	51	53	45	61
7255	Scott County School District 2	61	62	54	70
7285	Shelby Eastern Schools	67	69	61	77
7350	Northwestern Con School Corp	77	72	64	80
7360	Southwestern Con Sch Shelby Co	64	71	63	79
7365	Shelbyville Central Schools	65	61	53	69
7385	North Spencer County Sch Corp	77	71	63	79
7445	South Spencer County Sch Corp	68	65	57	73
7495	Oregon-Davis School Corp	59	63	55	71
7515	North Judson-San Pierre Sch Corp	58	60	52	68
7525	Knox Community School Corp	58	58	50	66
7605	Fremont Community Schools	67	70	61	78
7610	Hamilton Community Schools	60	66	58	74
7615	M S D Steuben County	63	68	60	76
7645	Northeast School Corp	58	59	51	67
7715	Southwest School Corp	56	61	53	69
7775	Switzerland County School Corp	65	61	53	69
7855	Lafayette School Corporation	54	59	50	67
7865	Tippecanoe School Corp	69	73	65	81
7875	West Lafayette Com School Corp	89	88	80	97
7935	Northern Com Sch Tipton Co	66	68	60	76
7945	Tipton Community School Corp	70	67	59	75
7950	Union Co/Clg Corner Joint Sch Dist	67	62	54	70
7995	Evansville-Vanderburgh Sch Corp	56	58	50	66
8010	North Vermillion Com Sch Corp	60	64	55	72
8020	South Vermillion Com Sch Corp	57	62	54	70
8030	Vigo County School Corp	60	60	52	68
8045	Manchester Community Schools	62	67	59	75
8050	M S D Wabash County Schools	65	69	61	77
8060	Wabash City Schools	58	59	50	67
8115	M S D Warren County	65	66	58	74
8130	Warrick County School Corp	72	71	63	79
8205	Salem Community Schools	64	65	57	73
8215	East Washington School Corp	57	63	55	71
8220	West Washington School Corp	58	59	51	67
8305	Nettle Creek School Corp	67	68	60	76
8355	Western Wayne Schools	62	62	54	70
8360	Centerville-Abington Com Schs	69	68	60	77
8375	Northeastern Wayne Schools	64	66	58	74
8385	Richmond Community School Corp	54	53	45	61
8425	Southern Wells Com Schools	66	70	62	78
8435	Northern Wells Com Schools	69	69	61	77
8445	M S D Bluffton-Harrison	65	69	61	77
8515	North White School Corp	49	54	46	62
8525	Frontier School Corporation	67	67	59	75
8535	Tri-County School Corp	65	67	59	75
8565	Twin Lakes School Corp	60	62	54	70
8625	Smith-Green Community Schools	66	70	62	78

Actual ISTEP+ Pass Rates, Estimated Pass Rates and Confidence Intervals

Sorted by Corporation Number

Corporation Number	Corporation Name	Actual ISTEP+ Pass Rate	Estimated ISTEP+ Pass Rate	95% Lower Confidence Boundary	95% Upper Confidence Boundary
8665	Whitley Co Cons Schools	70	70	62	78

Exhibit E

ADM Calculation History

1972-73: Based on Average Daily Attendance, "ADA", of the school corporation. Average Daily Attendance is the average number of students attending school during a set period of time. The state used a 3 week period at the start of school.

1974-75: Primary funding was based on the greater of the current ADA or the 1973 ADA of the school corporation. A supplemental grant was provided of \$36 times the school corporation's Average Daily Membership, "ADM", for 1974 and \$74 times ADM for 1975 and later. ADM is the actual number of students enrolled in the school corporation on a fixed day in September.

1976-77: Formula used greater of current or prior ADM and also included concept of adjusted ADM. Adjusted ADM included weights for students enrolled in special education and vocational education programs. ADA is used in formula for allowable increase in general fund levy.

1980-81: The enrollment change factor, "deghoster", was introduced to reduce prior year revenue before it was multiplied by a percentage increase in funding. The factor was:

1. Current years ADM divided by prior year ADM minus 1.
2. Divide result by 3.
3. Add one to result.

1982-85: The enrollment change factor was changed to provide for full growth for growing schools. The factor was:

1. Current years ADM divided by prior year ADM minus 1.
2. If result less than 0 then divide result by 3 else divide by 1.
3. Add one to result.

1986-97: Current ADM used in formula calculations but minimum guarantees of between 0% and 7 % eliminated any reductions for declining enrollment.

1998-99: Adjusted ADM calculation for 1998 was the sum of current ADM and greater of 0 or .8 times difference of previous year ADM minus current year ADM. Adjusted ADM calculation for 1999 was the sum of current ADM and:

1. Greater of 0 or .8 times difference of previous year ADM minus current year ADM.
2. Greater of 0 or .6 times difference of 2 year previous year ADM minus previous year ADM. 2000-2001 plus step 1a amount if it would have been negative.

2000-03: The adjusted ADM calculation:

- For 2000, sum of the current ADM and:
 1. .8 times greater of 0 or the difference of 1999 ADM minus 2000 ADM.

2. .6 times greater of 0 or the difference of 1998 ADM minus greater of 1999 or 2000 ADM.
 3. .4 times greater of 0 or the difference of 1997 ADM minus greater of 1998, 1999, or 2000 ADM.
- For 2001 to 2003, sum of the current ADM and:
 1. .8 times greater of 0 or the difference of 2000 ADM minus 2001 ADM.
 2. .6 times greater of 0 or the difference of 1999 ADM minus greater of 2000 or 2001 ADM
 3. .4 times greater of 0 or the difference of 1998 ADM minus greater of 1999, 2000, or 2001 ADM.
 4. .2 times greater of 0 or the difference of 1997 ADM minus greater of 1998, 1999, 2000, or 2001 ADM.

2004-05: The adjusted ADM was modified so growth was not fully funded and ADM changes were smoothed out.

1. For 2004, the adjusted ADM for charter schools was current ADM and adjusted ADM calculation for non-charters for 2004 was:
 - a. .8 times greater of 0 or the difference of prior ADM minus current ADM.
 - b. .6 times greater of 0 or the difference of 2 year prior ADM minus greater of prior or current ADM.
 - c. .4 times greater of 0 or the difference of 3 year prior ADM minus greater of 2 year prior ADM, prior year ADM, or current ADM.
 - d. .2 times greater of 0 or the difference of 4 year prior ADM minus greater of 3 year prior ADM, 2 year prior ADM, prior year ADM, or current ADM.
 - e. Sum step a, b c, d.
 - f. If step e is greater than 0 then adjusted ADM is 2004 ADM plus step e, else adjusted ADM is 2003 ADM plus:
 1. Greater of 0 or current ADM minus prior year ADM.
 2. Determine greater of .75 0 or step 1fl tomes .002.
 3. Multiply step 1 times step 2.
2. The adjusted ADM for charter schools was current ADM and adjusted ADM calculation for non-charters for 2005 was:
 - a. .8 times greater of 0 or the difference of prior ADM minus current ADM.
 - b. .6 times greater of 0 or the difference of 2 year prior ADM minus greater of prior or current ADM.
 - c. .4 times greater of 0 or the difference of 3 year prior ADM minus greater of 2 year prior ADM, prior year ADM, or current ADM.
 - d. .2 times greater of 0 or the difference of 4 year prior ADM minus greater of 3 year prior ADM, 2 year prior ADM, prior year ADM, or current ADM.
 - e. Sum step a, b c, d.
 - f. If step 1e is greater than 0 then adjusted ADM is 2005 ADM plus step e, else adjusted ADM is 2003 ADM plus.:
 1. Greater of 0 or current ADM minus prior year ADM.

2. Determine greater of .75 or step 1 times .002.
3. Multiply step 1 times step 2 plus step 3 for 2004.

2006-07: The adjusted ADM calculations were changed to 5 year average. The adjusted ADM for charter schools and was current ADM and adjusted ADM for other schools was greater of:

1. The sum of :
 - a. .2 times 4 year previous ADM.
 - b. .2 times 3 year previous ADM.
 - c. .2 times 2 year previous ADM
 - d. .2 times previous year ADM.
 - e. .2 time current ADM.
2. The sum of the previous year ADM plus .75 times different in current year ADM minus prior year ADM.

2008-09: The adjusted ADM for charter schools and non-charter schools with less than 100 ADM was current ADM. The adjusted ADM for other schools was greater of:

1. The sum of :
 - a. .2 times 4 year previous ADM.
 - b. .2 times 3 year previous ADM.
 - c. .2 times 2 year previous ADM
 - d. .2 times previous year ADM.
 - e. .2 time current ADM.
2. The school corporation's current year ADM.

2010-11: The adjusted ADM for charter schools and non-charter schools with less than 100 ADM was current ADM. The adjusted ADM for other schools was greater of:

1. The sum of :
 - a. 2 year previous ADM divided by 3.
 - b. Previous year ADM divided by 3.
 - c. Current ADM divided by 3.
2. The school corporation's current year ADM.

Exhibit F

Factors Used in School Formula

- Training and Experience Index: Index based on the number degree of the teacher and the number of years experience. The index was determined for each teacher and then the school corporation average is determined along with a state average. The index for a teacher was:
 - .7, if the teacher had less than 4 years of training.
 - If the teacher had 4 years of training but less than 5 years of training.
 - .8, if teacher had less than 6 years of experience.
 - .9, if teacher had 6 years or more of experience.
 - If the teacher had 5 or more years of training:
 - 1.0, if teacher had less than 5 years of experience.
 - 1.1, if teacher had between 5 and 11 years of experience.
 - 1.2, if teacher had between 11 and 17 years of experience.
 - 1.3, if teacher had more than 17 years of experience.
- Flat Grants: Schools receive a set dollar amount per student. Generally the revenue a school would receive is amount of funding the prior year plus a set dollar amount per student, varied between \$30 and \$110.
- Minimum Guarantees: Schools are guaranteed to receive the funding they receive the prior year plus a percentage increase in funding. Between 1973 and 2011 the guarantees varied from 0% to 8%. The guarantee sometimes also applied to funding per ADM or included provision that state funding could not decrease. The guarantees at times applied to total fund, regular program funding and both. Restoration grant is in 2010-11 school formula is a version of minimum guarantee.
- Maximum Increase: The formula has included provisions that the revenue a school receives could not be greater than a fixed percentage. The percentage varied between 8-10%.
- Small School: Grant to provide additional funding to small school with a certain complexity index.
- Adjustment of Growing School: Addition to previous year revenue if school has ADM growth two consecutive years. Mainly used when formula was based mainly prior year revenue.
- Bottom Up: Sets a minimum funding level in dollars per student. Was used in the early 1990s to increase funding to school with low funding per ADM.

Exhibit G

**Legislative Interim Study Committee for School Funding
Brownsburg Community School Corporation
8/30/2010 Marvin Ward**

Brownsburg Staff Reductions since 2008-09:

Certified positions 26
Classified positions 31.5 plus reduction of hours in all aide positions
Technology, aides, clerical, nurses, custodians, grounds and maintenance
Administrators 6

Frozen salaries for second year for administrative and classified staff
Frozen or reduced benefits for second year for administrative and classified staff

Teacher Contract Changes - With much credit to our Teacher's Association for Cooperation

Frozen Wages
No changes in Benefit Support - benefit costs have increased for employees
Elimination of extended contracts - media, counselors
No Increment
Without that agreement, we would have had to pay increment \$600,000 +
Law change that status quo contracts would freeze contracts
including increment would help settlements
Reduction of 403(b) retirement contributions
Elimination of VEBA contributions
Reduction of Athletic positions to save \$150,000
Limit employment experience to 5 years regardless of actual experience

Conservation Measures Public comments on web site - brownsburg.k12.in.us

Several public meetings to have dialog regarding reductions
New employees must pay for their own background checks
Reduce / eliminate summer school
Reduction of Transportation services -
Crowded buses, fewer stops, longer routes, more walkers- many more complaints
Reduced summer maintenance
Elimination of lawn treatments
THEME: **REDUCE, REUSE, RECYCLE**
Electronic newsletters, major reduction of paper uses and copy machine use
Reduction of printing stations
Conservation of utilities
Hotter in summer and colder in winter
Reduction of school nurse services- positions and hours more volunteers
Reduction / elimination of overtime
Closing of service buildings - testing - student services
Increased class sizes
Reduction - elimination of teaching aides
Changing eligibility for benefits
Eliminate Retirement contributions for administration and classified staff -403(b)
Reduction of Supply and Professional Development Budgets

Eliminate media center budgets - books, AV, periodicals
Reduce Bus Replacement
Reduction of building maintenance
Increased time for computer replacement cycle
Reduced availability of public use of facilities to conserve utilities

Funding Alternatives Utilized

Use of Rainy Day Funds and allowed transfers
At the sacrifice of transportation services and building repairs / improvements

Medical Insurance

Local - on campus clinics
Use of provider networks for discounts
Managed care plans for severe illnesses
Mail order pharmacy
Consumer driven decision making
"Trust" concept for shared medical risk - law of diminishing return for too many in a co-op
Higher deductibles for plans with corresponding premium reductions
Locally based decision making
Wellness incentives
Periodic review of policies and frequent bidding for services
Review of reinsurance, negotiated reduction of administrative fees

A required State plan would cost Brownsburg \$937,768 more each year.

Legislative Help For Schools During Tough Times

Eliminate required of teacher increment if contracts are not settled at the start of school
Continue allowed use of CPF to pay some of utility and insurance expenses
Allow the option for State medical plan, but do not require or reduce funding
if schools choose locally developed and controlled more efficient plans
Do not eliminate Circuit Breaker Recovery Funds
Communities like Brownsburg with 77.4% Residential AV, suffer huge revenue losses
Modify Circuit Breaker Cap laws to reduce damage to schools with high residential AV
Restore PERF and TRF school contribution levels to the 2009 level
Dollars that follow the pupil and equity for

THANKS

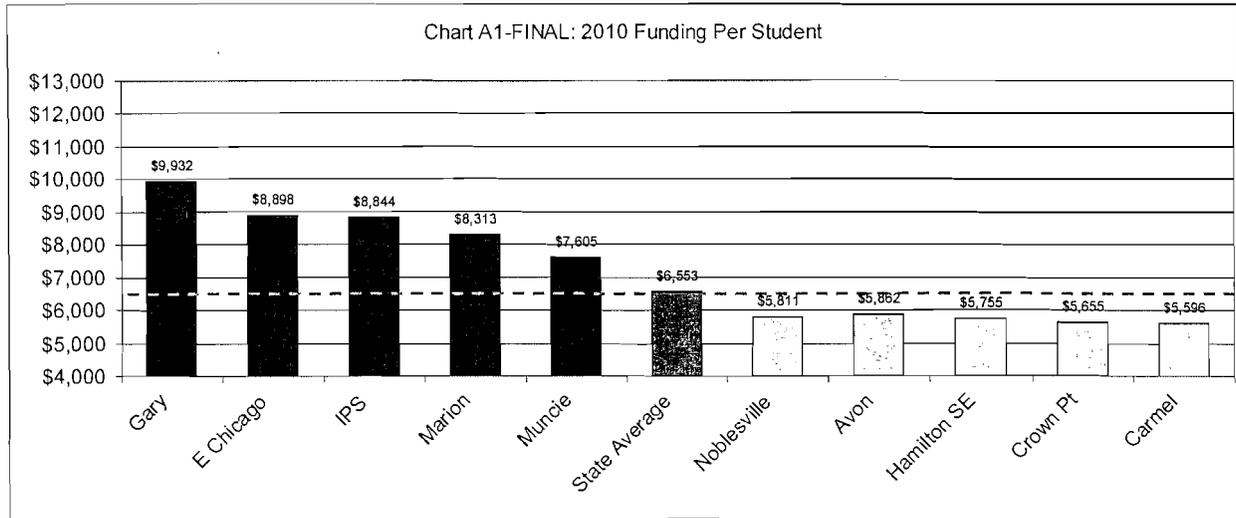
Thank you for the opportunity to present our conservation efforts and our concerns.
Our objectives are to improve student achievement and the reductions outlined above and others that may soon be required are working against those goals.
As class sizes increase, the potential for negative impact on achievement is real.

Exhibit H

Final Budget – 2010 Funding Per Student

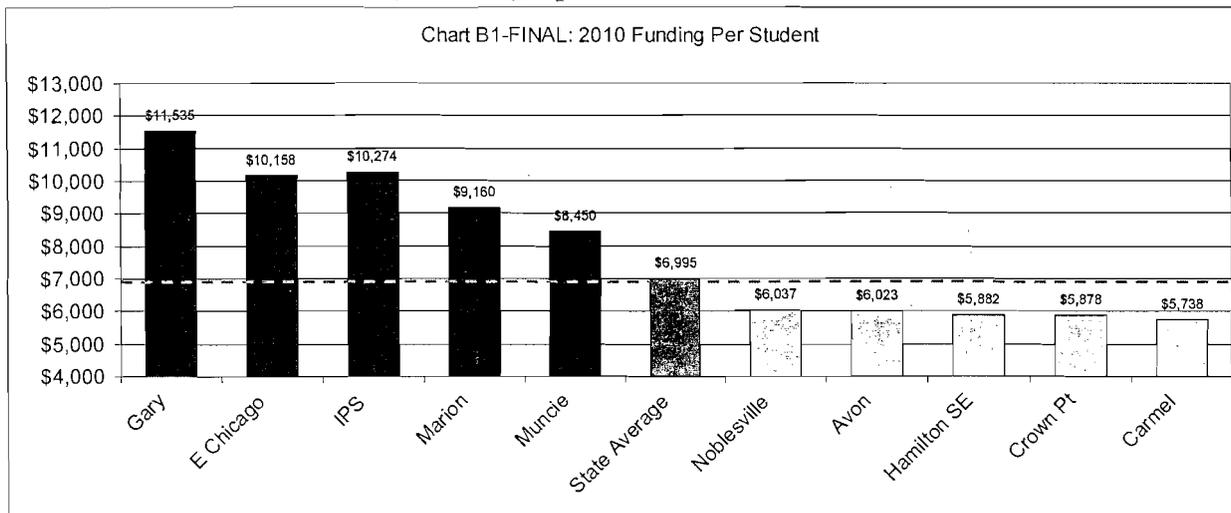
ABOVE THE LINE:

- includes State Regular, Special Ed, Vocational Ed, Prime Time, Honors & Restore



BOTTOM LINE:

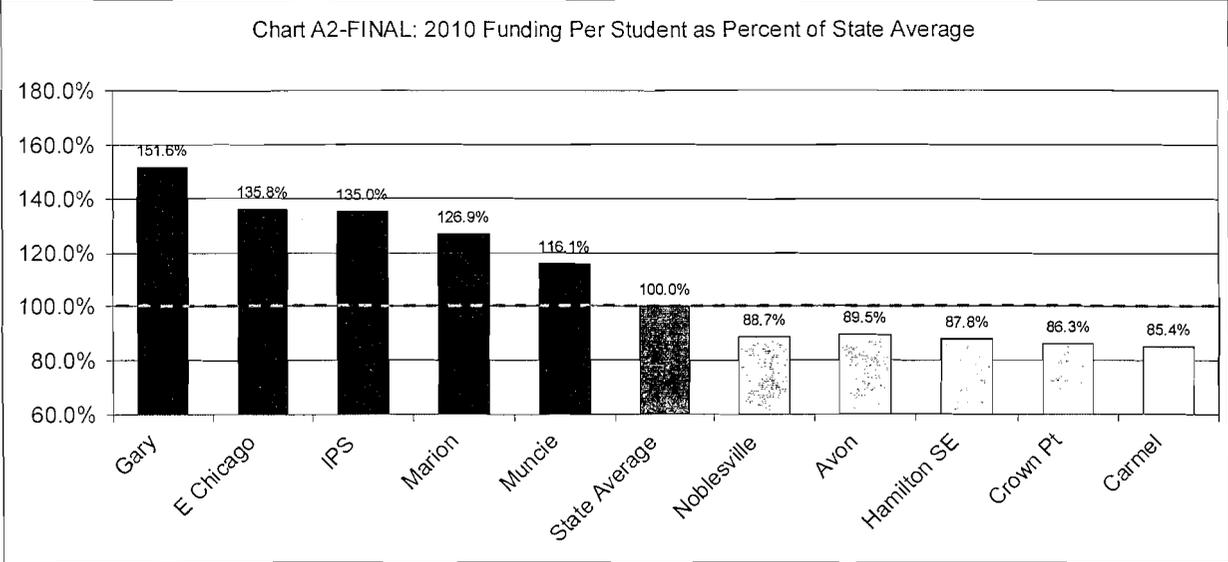
- adds Title I, Title I Stimulus (25/50/25), Special Ed Stimulus & Stabilization Excess



Final Budget – 2010 Funding Per Student as Percent of State Avg

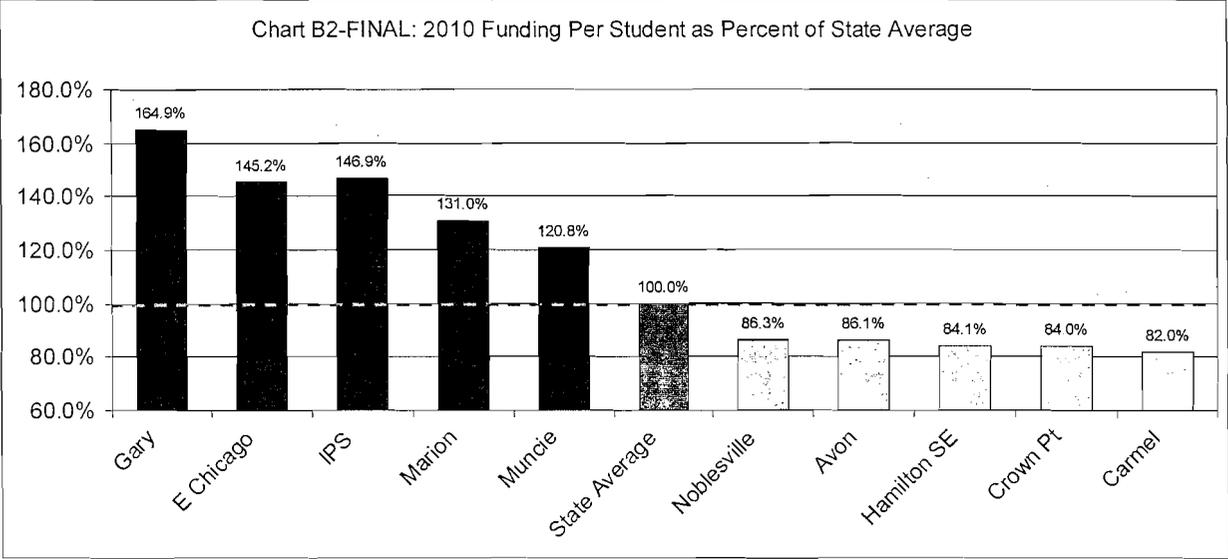
ABOVE THE LINE:

- includes State Regular, Special Ed, Vocational Ed, Prime Time, Honors & Restore



BOTTOM LINE:

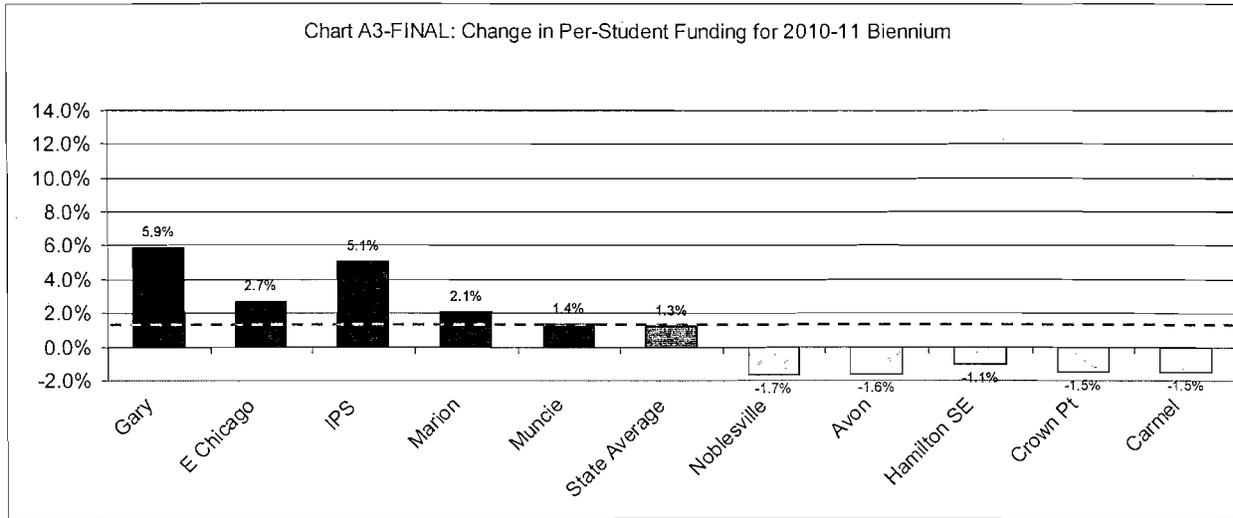
- adds Title I, Title I Stimulus (25/50/25), Special Ed Stimulus & Stabilization Excess



Final Budget – Percentage Change in Per-Student Funding for 2010-2011 Biennium (over Current 2009)

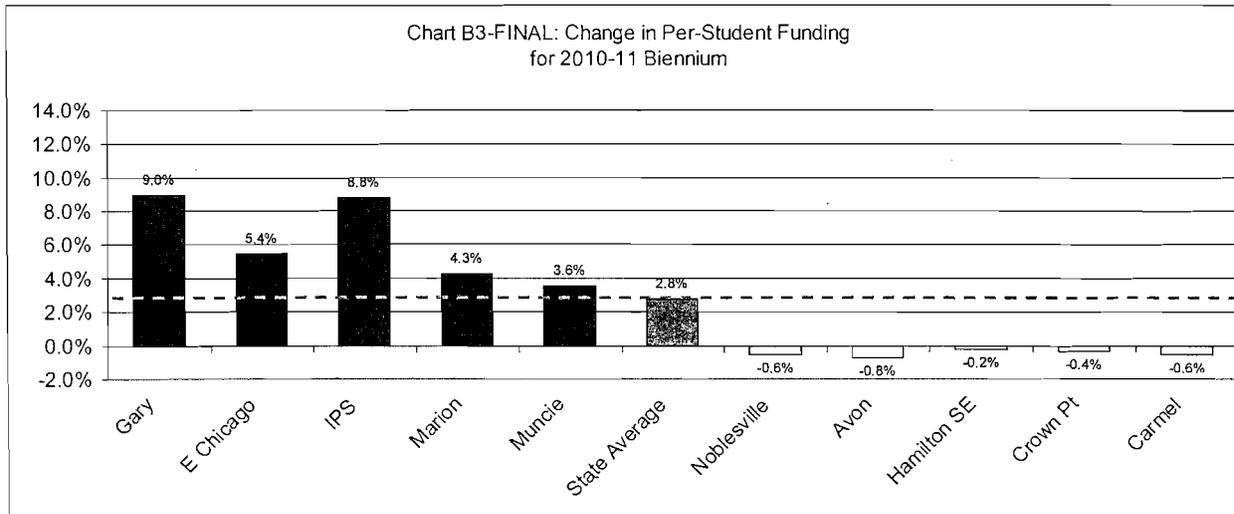
ABOVE THE LINE:

- includes State Regular, Special Ed, Vocational Ed, Prime Time, Honors & Restore



BOTTOM LINE:

- adds Title I, Title I Stimulus (25/50/25), Special Ed Stimulus & Stabilization Excess

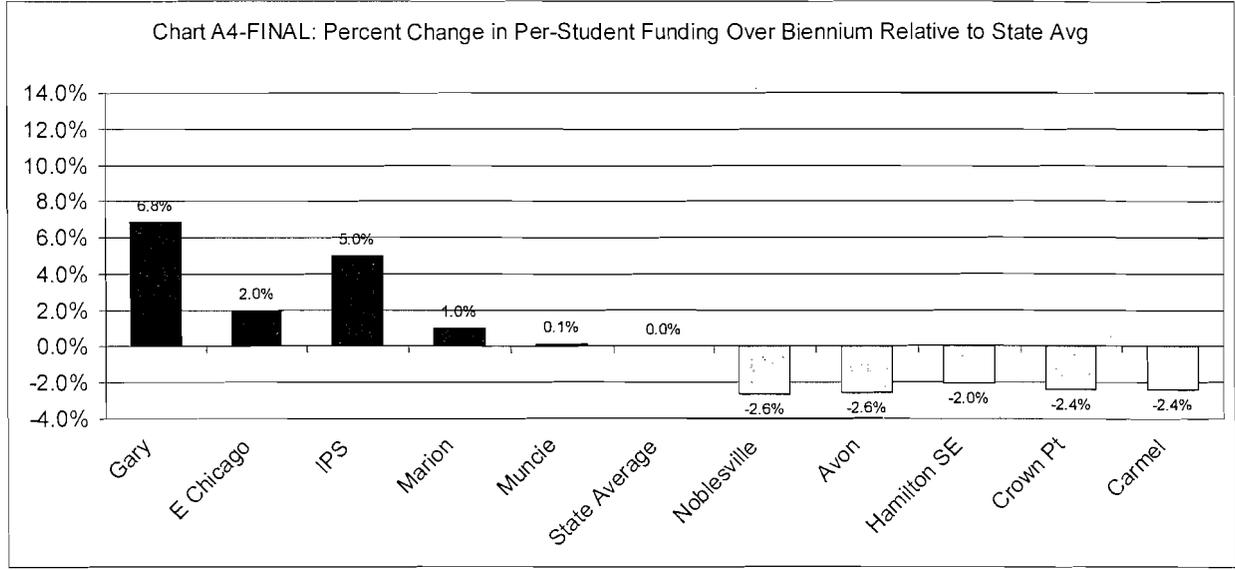


Final Budget – Change in Per-Student Funding Relative to State Avg

(Is per-student funding getting closer to or further from the state average?)

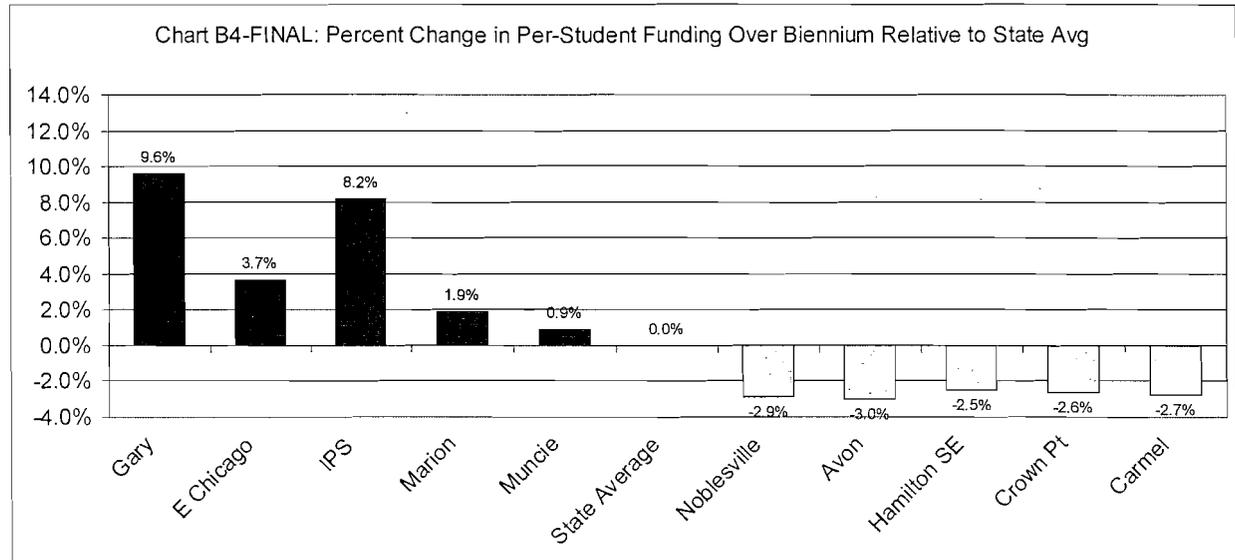
ABOVE THE LINE:

- includes State Regular, Special Ed, Vocational Ed, Prime Time, Honors & Restore



BOTTOM LINE:

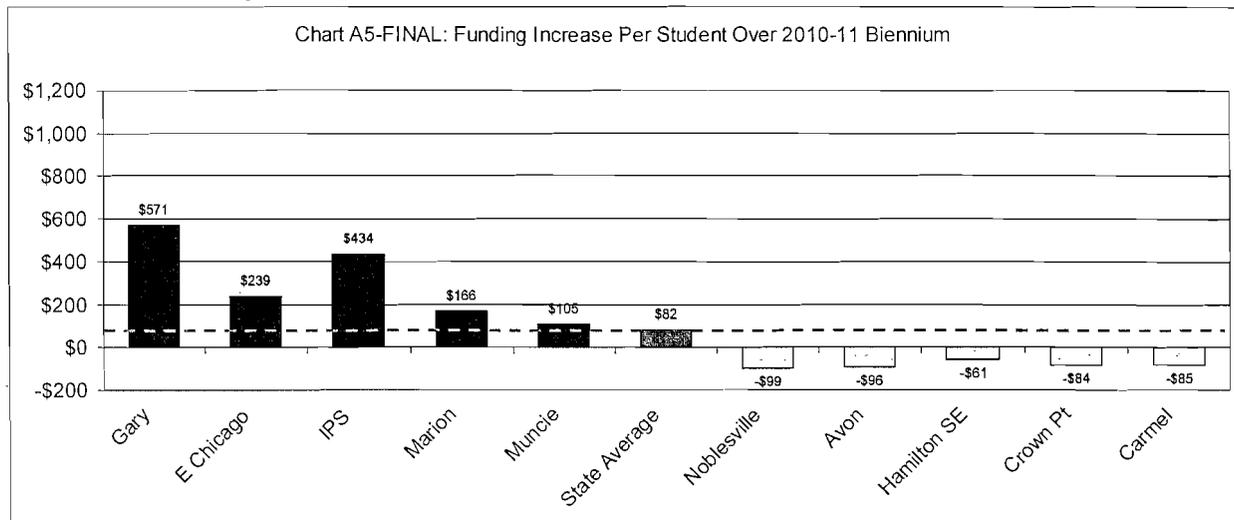
- adds Title I, Title I Stimulus (25/50/25), Special Ed Stimulus & Stabilization Excess



Final Budget – Funding Increase Per-Student Over 2010-2011 Biennium (over Current 2009)

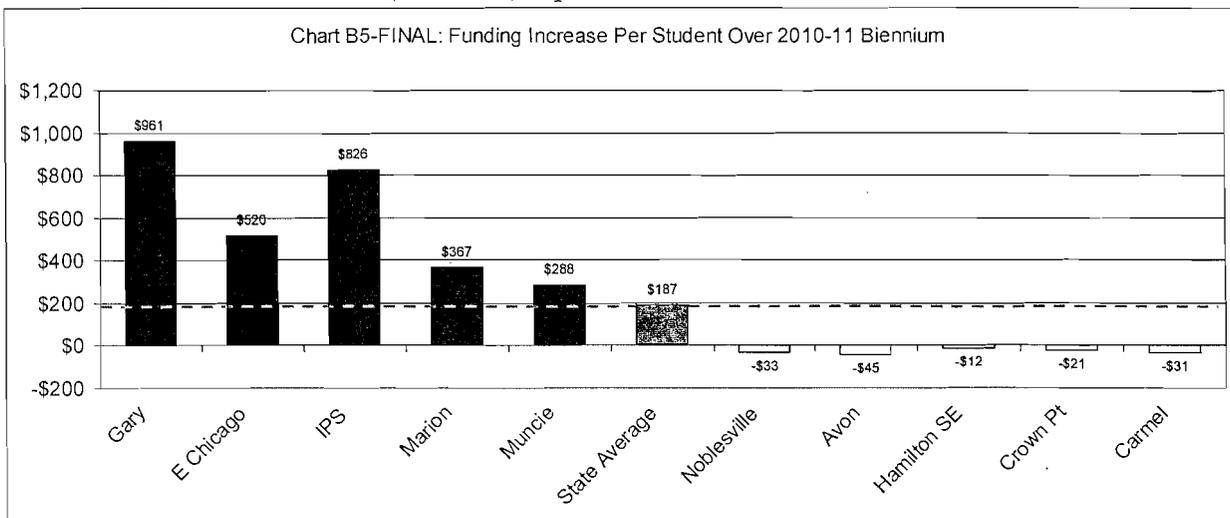
ABOVE THE LINE:

- includes State Regular, Special Ed, Vocational Ed, Prime Time, Honors & Restore



BOTTOM LINE:

- adds Title I, Title I Stimulus (25/50/25), Special Ed Stimulus & Stabilization Excess

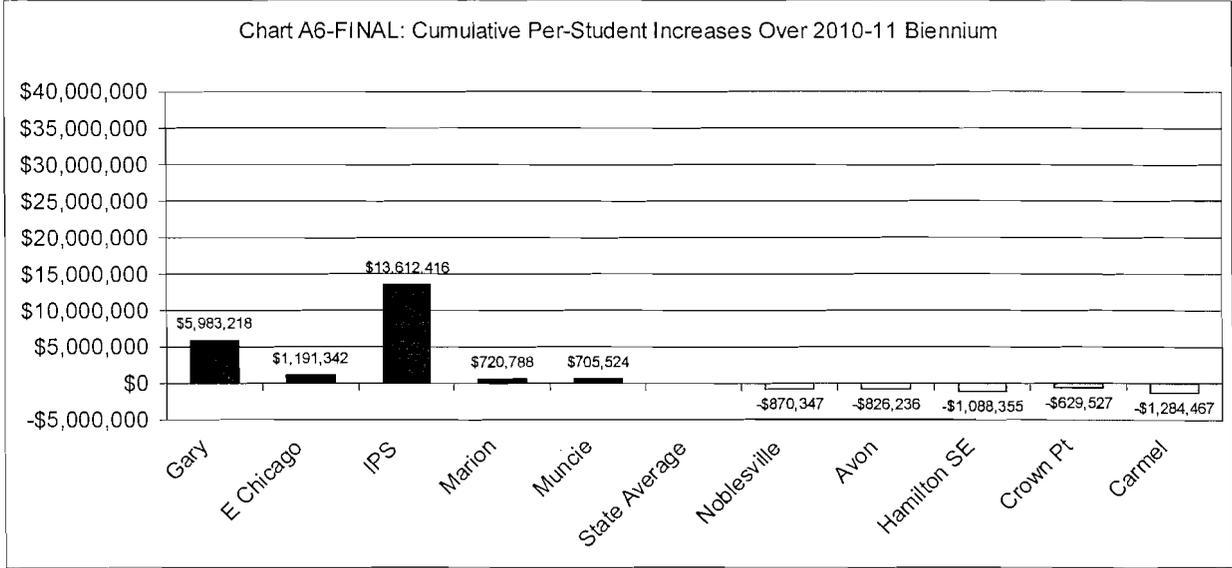


Final Budget – Cumulative Per-Student Increases Over 2010-2011 Biennium

(Per-student increase in each year multiplied times enrollment for that year.)

ABOVE THE LINE:

- includes State Regular, Special Ed, Vocational Ed, Prime Time, Honors & Restore



BOTTOM LINE:

- adds Title I, Title I Stimulus (25/50/25), Special Ed Stimulus & Stabilization Excess

