



Policy Report

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Shortchanging Disadvantaged Students: An Analysis of Intra-district Spending Patterns in Ohio

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Executive Summary

One of the reasons that school finance has remained such a central issue in Ohio is the continued poor performance of high-poverty schools. Despite prolonged legislative activity, the achievement gap between white and minority students and between property-rich and property-poor school districts persists. The lack of progress is all the more troubling given the steady increases in overall funding to the system.

Legislative efforts to provide supplemental resources for disadvantaged students are well-conceived; however, the findings of this report demonstrate that the money earmarked for this purpose is not reaching its target. Put simply, state equity efforts are being contravened by the way that districts allocate their funds to individual school buildings.

To date, most studies of the equity of Ohio's school finance system have focused on the differences in expenditures between school districts. Creating a World-Class Education System in Ohio, a report commissioned by the Ohio Department of Education, concluded: "Though the State funds districts based on the number and needs of the students in them, districts may—or may not—distribute money in the same way."

Districts, especially larger ones, tend to use staffing allocations to distribute funding. However, these allocations are often a result of central office decisions and collective bargaining agreements, which do not necessarily reflect student need."

In our study of 72 high-poverty school systems during the 2005-06 school year, the difference between what individual school buildings should have spent based on the demographics of their student population and what they actually spent per pupil resulted in nearly \$300 million being diverted from students who are disadvantaged, in special education programs, or gifted.

Over 167,000 students attended schools in which funding per student was lower than it should have been according to state policy. Just over 119,000 attended schools in which funding was higher than policy called for.

From these findings, there is reason to believe that general, or even focused, increases in state funding will continue to have little to no effect on increasing student achievement or reducing the achievement gap. Despite the fact that state funds are allocated based on characteristics of the student populations in districts, the state funding program is, in fact, a weighted-district funding, not a weighted-student funding system.

To solve the problem of funding inequity in the state, Ohio should implement quality controls to ensure that intended weighted-student funding is actually following designated students to their school buildings. Employing building-based budgeting is one mechanism to guarantee that wealthy schools within districts are not siphoning off the resources that have been appropriated to help close the achievement gap.

INTRODUCTION

Ohio's school funding system has been the source of heated debate, legislative amendment, litigation, and general concern for so long that it is difficult to accurately determine just when it all became such a consuming issue. The heart of this issue has been, and continues to be, the question of how the state distributes education resources. In particular, are disadvantaged students shortchanged by the state's school funding formulae?

The now infamous series of *DeRolph* cases decided by the Ohio Supreme Court initially declared that Ohio was in violation of the state constitution because resources were not being distributed equitably among the 611 school districts across the state. The court also addressed the question of whether there were sufficient funds to provide every student with an "adequate" education.¹

Two related concepts are common to school finance litigation – adequacy and equity. *Adequacy* refers to the goal of ensuring that every student has at least the minimum resources necessary to receive some predetermined level of education (an excellent education, an average education, or a basic education).² In Ohio, adequacy goals are achieved "by taking the average base costs of school districts deemed as high-performing... defined as those districts meeting 20 out of 27 academic standards" and calculating the average per-pupil spending in those districts.³

The state then guarantees, through the foundation funding program, that calculated amount for every student enrolled. In the most recent school year the foundation amount was \$5,283 per student.⁴

Equity in school funding is a more difficult notion, as there are three concepts at work.⁵ *Horizontal equity* refers to the equal treatment of equals: Do students with similar needs

receive similar resources? If similar students in different areas of the state receive different amounts of funding, then horizontal equity is not being addressed. *Vertical equity* considers whether different students receive different levels of resources. Students with greater needs should receive greater resources. The third concept is *fiscal neutrality*.⁶ The amount of resources a student receives should not be substantially related to the local revenue capacity of the area in which the student lives.

EQUITY ACROSS DISTRICTS

In response to concerns over both adequacy and equity, state policymakers have made substantial changes to the way school districts are funded. By adding more money to the education budget (Chart 1) and by recalibrating the funding formula, the state has tried to bring all schools up to a certain level of funding. It has also provided additional, categorical spending for students with differential needs, such as those students labeled as gifted, economically disadvantaged or having special needs. Indeed not only do high poverty districts have higher average per pupil expenditures, but over time (Chart 2) the difference in average expenditures has grown – in favor of the high-poverty districts.⁷

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Chart 1: Total Student Enrollment and Total State Spending (Inflation Adjusted) on K-12 Education, 1978 to 2006

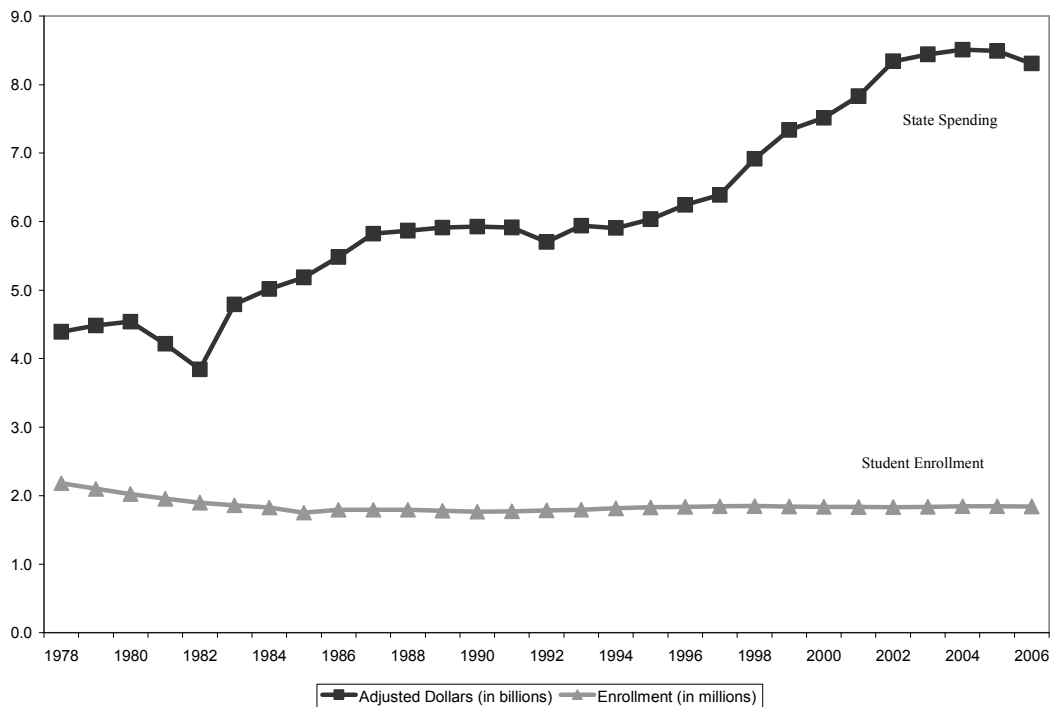
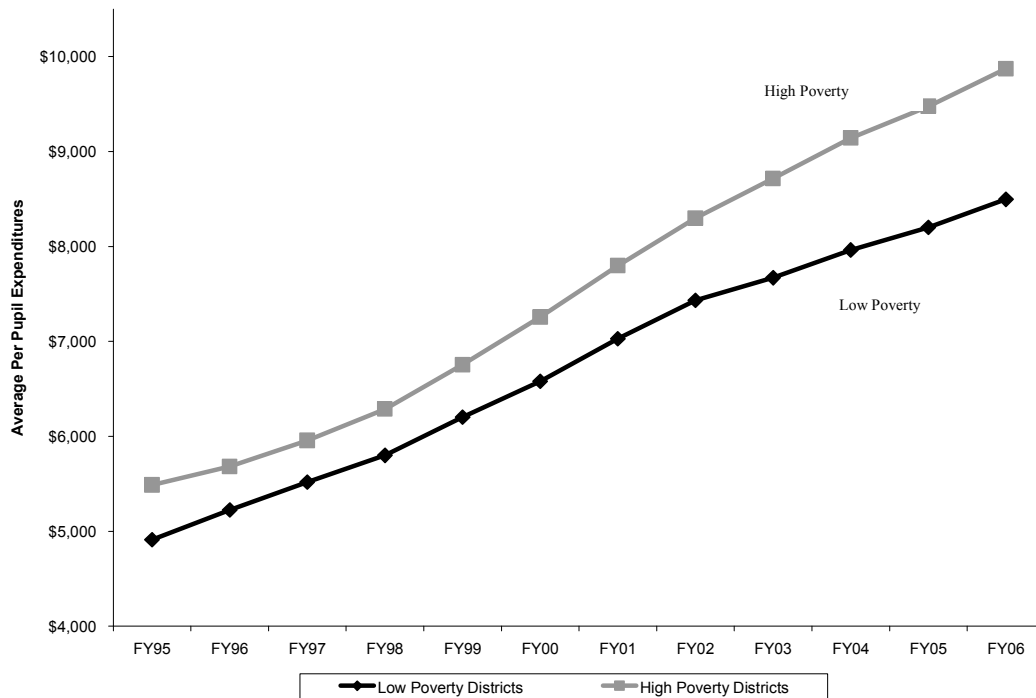


Chart 2: Average Per-Pupil Spending for High and Low Poverty Districts, 1995 to 2006



One of the reasons that school finance has remained a central issue in the state is the continued poor performance of high-poverty schools. Despite prolonged legislative activity to close the achievement gap, the disparities in academic performance between white and minority students remain (Chart 3). A gap persists also between property-rich and property-poor schools (Chart 4).

This lack of progress is all the more confounding given the steady increases in overall funding. Legislative efforts to provide supplemental resources for disadvantaged students are well-conceived; however, the

money earmarked for this purpose is not reaching its target, let alone producing satisfactory academic results. Our study may help explain the disconnect between increased supplemental funding for disadvantaged students and the persistence of the achievement gap.

Popular understanding to the contrary, the federal government has very little authority over state education policy.

The No Child Left Behind Act receives tremendous attention, but federal money provides less than ten percent of funding

Chart 3: Average Reading Proficiency Passage Rates for Disadvantaged and Non-Disadvantaged Students

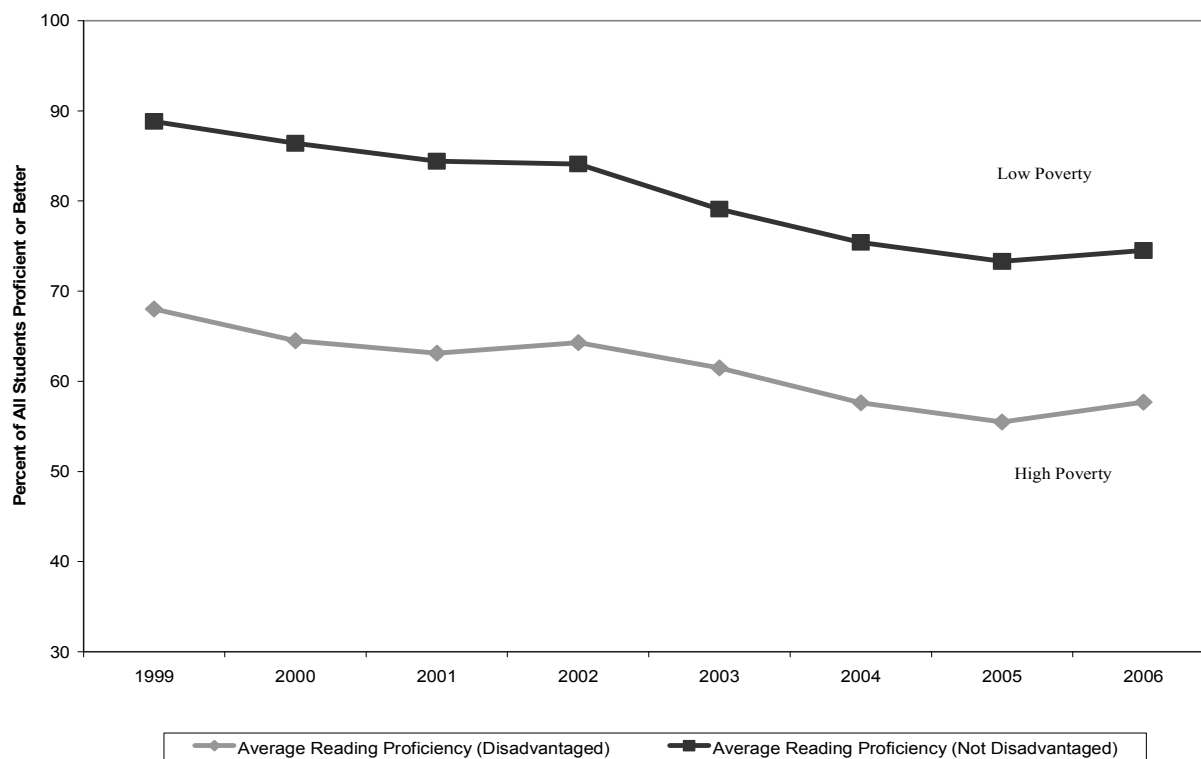
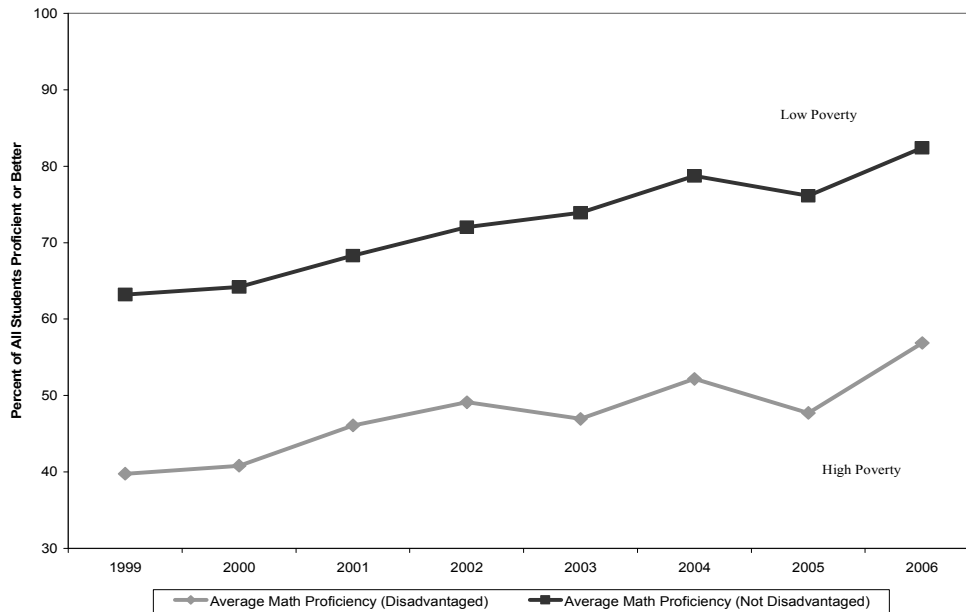


Chart 4: Average Math Proficiency Passage Rates for Disadvantaged and Non-Disadvantaged Students



nationwide.⁸ States are charged with the responsibility to provide for education, and all state constitutions include clauses that specify the state's duty.

In Ohio, the constitution dictates that the state must provide a "thorough and efficient" system of schools.⁹ School districts and related professional education organizations¹⁰ point to this language when they argue that the state is not meeting its obligations. They claim that the changes made to the state's funding formula have been insufficient and that substantial inequity continues.¹¹ Over the past few years, several ballot initiatives to amend the state constitution have been offered as a solution to the funding "problem."

One such amendment, introduced in 2005 as the *Educate Ohio Amendment*, has recently been resurrected as the *Getting It Right! For Ohio's Future Amendment*. This initiative proposes to allow the State Board of Education to dictate the state's K-12 education budget to

the state legislature. Under this amendment, any decision of the board regarding school finance could only be overruled by a three-fifths supermajority of the legislature. Moreover, even if it was successful at modifying the dictates of the state board, the legislature's decision would still require approval by the Ohio Supreme Court.¹² Proposals such as the *Getting it Right!* amendment flow from the prevailing wisdom that "fixing" the school funding system means increasing total funding and shifting budgetary control to the state.

The No Child Left Behind Act receives tremendous attention, but federal money provides less than ten percent of funding nationwide.

Through the foundation program of funding public schools, the state has in fact made great strides in ensuring that every district has a sufficient funding base. The legislature has continued to refine the formula through the *Building Blocks* program. This program supplements the basic aid funds by giving even more money to "districts that, due to the nature of the district or the background of its students, tend to require a greater amount of resources."¹⁴

EQUITY WITHIN DISTRICTS

To date, most studies of the equity of Ohio's distribution of school funds have focused on the differences in expenditures between school districts.¹⁵ However, a recent report commissioned by the Ohio Department of Education pointed to another kind of inequity. It concluded: "Though the State funds districts based on the number and needs of the students in them, districts may—or may not—distribute money in the same way. Districts, especially larger ones, tend to use staffing allocations to distribute funding. However, these allocations are often a result of central office decisions and collective bargaining agreements, which do not necessarily reflect student need."¹⁶

The work of state policymakers to support traditionally low-performing students may be undermined if school districts are not also equitably distributing resources to their own students. Are state equity efforts being contravened by districts? Are school districts with a majority of the student population labeled as disadvantage allocating resources to school buildings in relative proportion to the needs of the students?

To address those questions, we used a research model created by the Annenberg Institute at Brown University. The model was modified to accommodate the financial data that is publicly available from the Ohio Department of Education.

What do the Districts and Schools in the Study Look Like?

Our analysis required data for both districts and schools. The source for most of the data was the Ohio Department of Education (ODE), which collects information on every school district in the state. We limited the analysis to those districts in which at least 50% of the students were labeled as disadvantaged during the 2005-06 school year, which left 72 districts

for the study. Cutting the number of districts down to size this way gave us a sample size that is large enough and varied enough for statistical analysis. This sampling technique, known as purposive sampling, also improves the generalizability of the results to high-poverty schools.¹⁷

The 72 districts differ from each other in many important ways (Table 1), such as total district expenditures (ranging from \$3.4 million to \$529.2 million), and per-pupil state revenue (\$2,314 to \$8,238).

We used the SF-3 reports, compiled by the ODE for each district, to calculate the amount of money each school in the sample should have received based on how many disadvantaged, special education, and gifted students it had. The SF-3 reports gives the total amount that each district received from the state, broken out by foundation funding and categorical funding.¹⁸

We used other data sources from ODE to collect additional information on district enrollment and revenue. They allowed us to calculate how much money districts received from local, state, and federal sources. We also assembled total student enrollment figures, and broke them down into the funding categories (disadvantaged, special education and gifted) at the school level. Finally, we used the unique identification numbers assigned by ODE to each district and school to aggregate separate enrollment counts and financial information.

Just as there was variation across the districts in our sample (Table 1), there was considerable variation across schools (Table 2). Enrollment, for example, ranged from a low of 13 to a high of 2,030 in the schools in the sample. The amount of money that schools did and should have received also varied greatly.

The variation in this sample refutes one of the more pervasive misconceptions about school

The work of state policymakers to support traditionally low-performing students may be undermined if school districts are not also equitably distributing resources to their own students.

Table 1: District Level Descriptive Statistics

	N	Minimum	Maximum	Average (Mean)
District Expenditure* (\$)	72	416,690	130,204,916	9,863,965
District Disadvantaged Enrollment (%)	72	50	100	62
District SPED Enrollment (%)	72	10	28	18
District Gifted Enrollment (%)	72	0	28	10
Sum of School Expenditures in District(\$)	72	3,456,781	579,217,584	58,011,613
District Revenue Per Pupil - Local (\$)	72	796	10,713	3,318
District Revenue Per Pupil - State (\$)	72	2,314	8,238	5,658
District Revenue Per Pupil - Federal (\$)	72	472	2,748	1,347

*Reported expenditures for district administration

funding, which is that school buildings within a district all have substantially similar student populations. The percentage of students considered disadvantaged ranged from 50% to 100%, a factor of two. The percentage of special education students varied by a factor of three. In addition to stratification across districts, there is stratification within districts, even in our sample. The disadvantaged population in schools ranged from 0% to 100%.

How Did We Analyze the District and School Data?

The methodology of this paper, which relies heavily on the work of the Annenberg Institute for School Reform at Brown University, is explained in more detail in the appendix.

Under the logic of funding formulas, a school with the greatest concentration of students

who are allocated extra funds within a district should also have the highest per-pupil spending for that district. To examine whether this is happening, we ran two correlation analyses for each district. They are related to each other but offer a somewhat different look at intra-district equity.

The first correlation (“Actual Spending”) looked primarily at “what happened.” For each district, we calculated the correlation (Pearson-r) between the per-pupil spending of each school and the percentage of its students who are labeled as disadvantaged. Districts that send money to the schools with the highest proportion of disadvantaged students—thus fulfilling the intent of the law—have a high and positive correlation. A negative correlation, by contrast, means that district administrators are sending proportionately less money to the schools with the greatest concentration of

Table 2: School Level Descriptive Statistics

	N	Minimum	Maximum	Average (Mean)
Enrollment	915	13	2,030	450
Disadvantaged Population %	905	0	100	71
Special Education Population %	907	0	100*	18
Gifted %	907	0	63	10
Per Pupil Actual Spent (\$)	915	432	48,430	9,465
Per Pupil Should Have Received (\$)	903	3,336	17,778	9,224
Difference Between SHR and Actual (\$)	903	-41,960	13,190	-374

* Note: At least one school in the sample, Gorman Elementary in Dayton, serves only disabled students.¹⁹ “SHR” means “should have received.”

disadvantage students. They are acting contrary to the purpose of the funding formula.

The second correlation (“should have received”) looked at “what should have happened” according to the state formula. By law, each student is “worth” at least a fixed amount (\$5,283).

The state allocates extra money for each student who falls into a specific category, such as needing special education services. We used several methods for determining what we call “SHR,” or what a school “Should Have Received,” based on its enrollment. Again, we calculated a correlation for each district, this time between the percentage of disadvantaged students in its enrollment and its SHR amount. Once more, a large and positive correlation shows that school funding is being allocated according to the intents of the formula.

What Did the Analyses Reveal?

The data analyses suggest that, across the state of Ohio, high-poverty districts are not distributing funds among schools in a way that reaches the neediest students. The two correlations are summarized in Chart 5. The correlation is fairly strong between the “should have received” amounts (which reflect state policy to reduce inequity) and student enrollment. For example, in 80% of the sampled districts, the correlation was 0.7 or higher. In 93% of districts there was at least a minimal positive correlation.

The results for the “Actual Spending” analysis were very different. In only 59% of the districts was there any sort of positive correlation (0.00 or higher), meaning that in 41% of districts—more than 2 out of every 5—there was a neutral or even negative correlation between actual spending and high-need enrollment. A correlation of 0.4 or higher is considered moderate or strong.²⁰ Only 27% of districts in the sample had a correlation that strong. This means that only slightly more than one-fourth of the high-poverty school districts in the state appear to be spending money based primarily on the needs of students.

An overwhelming majority of high-poverty districts in Ohio, according to these numbers, have a strongly inequitable resource distribution pattern. This is particularly troublesome given the fact that these high-poverty districts are allocated significantly greater revenues (Chart 2) than their low-poverty counterparts.

During the 2005-06 school year, the difference between what schools in the sample should have received and what they actually spent per pupil resulted in nearly \$300 million being diverted from students who are disadvantaged, in special education programs, or gifted.

Over 167,000 students attended schools in which funding per student was lower than it should have been based on the number of students who are disadvantaged, and just over 119,000 attended schools in which funding was higher. On average, schools that were underfunded had approximately 76% of their student body labeled disadvantaged, and the average for those that were over-funded was 66%.

Despite the attempt of the legislature to address the equity concerns raised in the *DeRolph* cases, students in Ohio’s high-poverty districts do not appear to be receiving funds based on their needs.

However, fault for this situation does not lie primarily with the state, but with school districts. The equity created by the state funding formula is contravened by significant inequity in how these districts allocate resources to their individual schools. Although some may argue that the current K-12 education finance method uses weighted-student funding, a more accurate term would be weighted-district funding. As this study shows, it is districts that are funded based on student characteristics, not schools, and certainly not individual students. That these high poverty districts would sue the state claiming that their students are short-changed is hypocritical at best, for it is the districts that are misallocating the money.

If the goal of school finance lawsuits has been to ensure that students receive supplemental education money based on their individual characteristics, then the state and districts

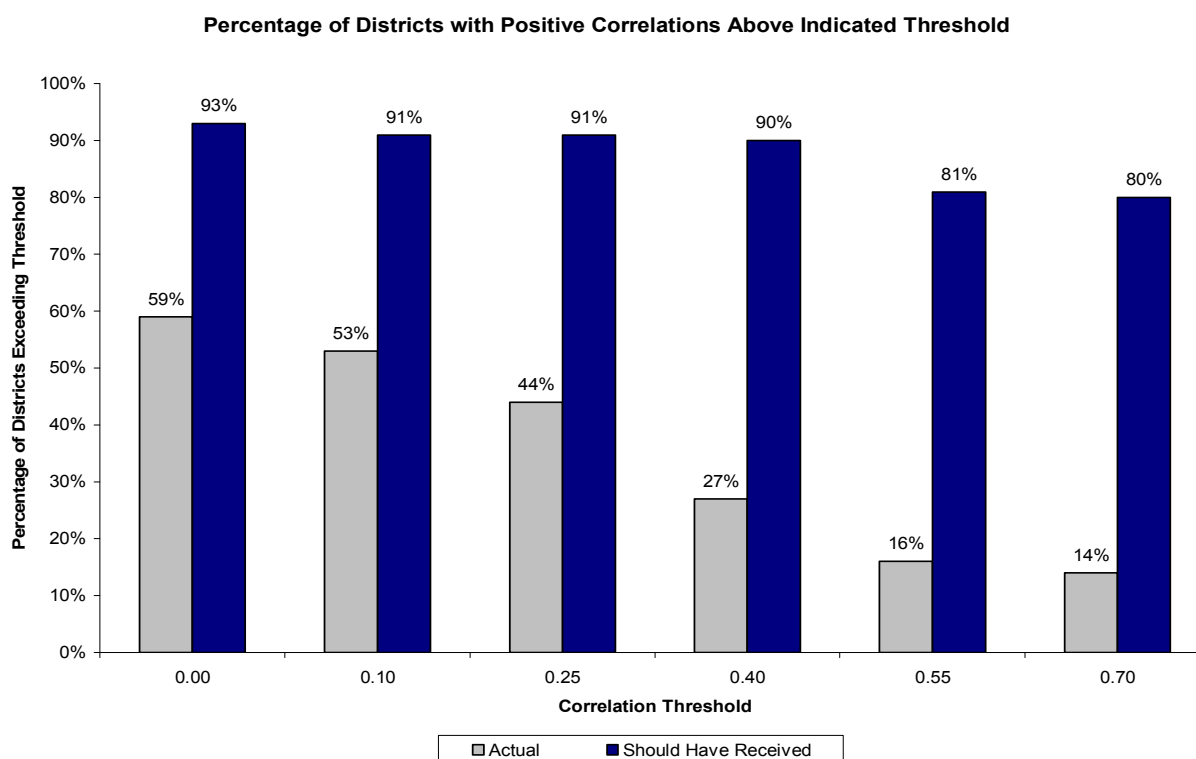
must make certain that this extra money actually follows students to their schools. Building-based budgeting, rather than district-level budgeting, would address this problem.

Before asking the state—whether through lobbying or lawsuits—for more money for disadvantaged students, critics of the current school finance system should first advocate for the appropriate allocation of the large amount of money that has already been authorized. This critical step may well reduce the achievement gap without putting more funds

improve academic performance and avoid the stigma of poor ratings. While this question will be explored more fully in a future report, limited research provides some clues. In particular, the teacher mobility and transfer rights ensconced in collective bargaining agreements are partially to blame.

Teacher salary is determined in large part by a seniority policy, which often allows teachers to choose their schools of assignment within a district. Warner-King and Smith-Casem state: “Seniority-based assignment policies allow

Chart 5: Correlations Between Per-Pupil Spending and Proportion of Student Population Disadvantaged



into the state’s public education system. The state should work to make sure that students are getting the resources they have already been designated to receive before diverting more funds into a system that has become highly inefficient.

The obvious question that follows is why districts would have inequity in their schools. After all, they do have incentives, due in large part to the state’s accountability system, to

higher-paid veteran teachers to cluster in schools serving fewer poor, minority, and low achieving students.”²¹ It is no surprise that teachers with the most experience and highest salaries choose to work in schools with the most advantaged students.²² Since 80% of school expenditures are concentrated in salaries,²³ districts are apparently required by collective bargaining agreements to allocate money based on teacher seniority rather than student characteristics. The idea of building-

based budgeting, or allocating resources based on student need rather than teacher preference, is met with heavy resistance from teachers unions. Unions are in business to protect rules and provisions that benefit teachers, and as Rosa and Hill note, they “will not easily give up hard-won privileges for senior teachers.”²⁴

If unions were dedicated to educating students, then they would be ensuring that students receive their deserved amount of money instead of fighting for across-the-board raises for teachers. The basis for equity lawsuits is that some students need more resources, and the result of these lawsuits should be that students actually do receive the appropriate supplemental amounts. Unfortunately, the policies arrived at through collective bargaining agreements prevent this equity from happening, and, as a result, disadvantaged students are denied the resources they have been promised.

CONCLUSION

The results of this study present a troubling picture of how resources are allocated by high-poverty school districts. For over a decade these districts and the unions that represent their staff have waged a public relations campaign to convince citizens and policymakers that the school funding system is inequitable. Districts have worked hard to shift blame for the continued low performance of their high-poverty schools and for the achievement gap more generally.

The state, in turn has made great strides toward ameliorating inequity in the way school districts are funded. As a result, high-poverty districts are spending more than low-poverty districts over the last ten years and equity across districts has actually increased. The true problem in Ohio is that the state has mistakenly sent the check to each district and then assumed that the district would in turn allocate those funds in the same equitable manner.

Proposals for increasing total state funding or for increasing the number and/or amounts of categorical supplements will likely have no

effect on student achievement. Until school districts begin allocating resources equitably among their schools and begin distributing funds based on the needs of the students rather than the transfer rights of teachers, state funds will not have the intended effect. Policymakers and citizens must first demand that funds are actually tied to the needs of students. Once that is accomplished, then we can decide whether more funds are really needed.

APPENDIX

The methodology of this paper relies heavily on the work of the Annenberg Institute for School Reform at Brown University. In *Assessing Inequities in School Funding within Districts*,²⁵ researchers detailed a method of calculating the amount of district funds that ought to go to a school building based on the demographics of that building. This calculation can then be compared to what each school actually spent. Differences between these two figures mean that the district is not allocating its resources equitably.

The methodology employed in this report to calculate the amount of funding individual schools should have received differs slightly from the Annenberg method because of the availability of data. However, the central premise is the same. We approximate what the equitable distribution of district funds to each school building (based on the characteristics of the student population) should be and then compare that figure to the actual allocation pattern.

The first step was to determine to what degree districts in Ohio are currently distributing funds to their schools based on the disadvantaged population of each school within the district. Each school building’s per-pupil expenditure was calculated by dividing that school’s total expenditure by its total enrollment.

Next, correlations (Pearson-r) between the per-pupil expenditure in each building and the percent of students in the building labeled as disadvantaged were calculated for each district. A positive correlation for a district

indicates an equitable distribution among schools within the district. In other words, schools with higher proportions of disadvantaged students are spending more, on average, per pupil. Neutral or negative correlations indicate inequity in how a district allocates its funds. The neutral correlation means that there is no relationship at all between spending levels and the concentration of disadvantaged students in a school. A negative correlation, though, is the most alarming of all, for it indicates that districts are allocating fewer funds to schools with higher concentrations of disadvantaged students and more funds to schools with less disadvantaged populations—contrary to current policy.

The next step was to determine how much money schools within a particular district should have spent given the characteristics of their student population. According to Ohio education funding policy, school districts receive basic aid aimed at ensuring that all students receive at least the foundation amount (\$5,283).²⁶ An important assumption made in the models is that these funds should be distributed equally among all students.

The state also then provides additional funding for each student who is designated as disadvantaged, special needs, or gifted. By allotting funds differentially based on perceived need, the state formula intends to create greater equity in the resources available to school districts. The question then becomes whether the additional funds that are designated for these categories of students are actually being passed on to the school buildings which those students attend. If the district is passing on these categorical funds, school buildings in a given district with higher percentages of disadvantaged students should have greater per-pupil spending than schools in that same district with lower percentages of disadvantaged students.

The reason for focusing on disadvantaged students is that they are the only group allocated substantial categorical funding with little oversight to guarantee that they actually receive those funds. Special education funds are more likely to be reaching their target

because of the legal strength of Individualized Education Plans, and gifted education funding is negligible compared to the other categories and total spending.

Based on the amount the district had previously distributed to schools, the data were used to calculate the amount that each school should have spent per student. Our methodology did not add any money to districts' revenues; it merely re-distributed the available funding to the schools within each district based on the types of students who attend those schools. Using the existing amount of district revenue and total school expenditures, this study examined the degree to which money targeted for disadvantaged students actually reached those students.

The calculation of how much each school building should have spent was based on the actual student population in a building and the disadvantaged, special education, and gifted categorical allocations set in the state funding formula, as reported in the SF-3 documents. Furthermore, the methodology assumes that most all federal funds are directed to disadvantaged students.²⁷ Finally, the distribution of locally-raised funds is assumed to be equal to the "weighted" amount of categorical add-on funds from the state. That is, if the state provides a district with \$100,000 in basic aid and \$20,000 of additional money in disadvantaged aid, the method assumes that the local funds should be distributed in a commensurate manner.

A number of calculations were employed to determine the amount that each school in the sample districts should have spent. Each school possessing disadvantaged, special education, and/or gifted students should have spent an amount above and beyond the district's foundation amount. Hill and Wong outlined the method for calculating the weighted average expenditure using a three-step method.²⁸

- Step 1: Take the total amount the district has for a given category.
- Step 2: Divide by the number of students in the district that fall in that category.

- Step 3: Multiply this result by the number of students in each school that fit that category. Repeat for each category.²⁹

Based on the Annenberg model, Table 3 below details how the weighted per school expenditure was calculated in this study:

For example, in a given district, suppose that the additional amounts of categorical funding were \$1,000 per disadvantaged student, \$500 for a special education student, and \$250 for a gifted student and that the foundation amount that this district receives per pupil is set at \$4,000. If a school were to have one disadvantaged student, one special education student, and one gifted student, then that school would receive an additional \$1,750 [the calculation is $\$1,750 = (1 \times \$1,000) + (1 \times \$500) + (1 \times \$250)$] above what it would have received had every student been exempt from these categories.

Based on the new amount the school should have received, a new per-pupil expenditure amount was calculated by dividing the total amount of funds the school should have spent by the total student enrollment figure. A second set of Pearson-r correlations was then run between the percentage of students labeled disadvantaged in each school and the approximated calculation of what each school should have spent for each district. As with the correlation analysis of the actual spending patterns, large positive correlations indicate that district resources are being allocated equitably (i.e. based on the characteristics of the students in each school building).

Table 3: Calculating What School Buildings Should Have Spent Based on Characteristics of the Building's Actual Student Population

$$\text{Per School Expenditure} = (\text{STUDENT} \times \text{EXP}_{\text{student}}) + (\text{DIS} \times \text{EXP}_{\text{dis}}) + (\text{SPED} \times \text{EXP}_{\text{sped}}) + (\text{GIFT} \times \text{EXP}_{\text{gift}})$$

where,

STUDENT = total number of students in the school

DIS = number of students in school classified as disadvantaged

SPED = number of students in school classified as special education

GIFT = number of students in school classified as gifted

EXP = the per student amount in the given category

For the sake of the example, if this school were to have 3 students total, the total amount the school would have received from the state would be \$13,750 [the calculation is $\$13,750 = (\$4,000 \times 3) + (\$1,750)$]. If, however, a hypothetical school had 100 students, but none of them qualified for categorical funding, our report would state that the school should have spent \$400,000.

Finally, if this 100-student school were to have 3 students who qualified for categorical funding, with one in each category, then the school should have received \$401,750.

FOOTNOTES

1. DeRolph v. State, see: <http://www.sconet.state.oh.us/derolph/>.
2. Berne, R. & Stiefel, L. (1999). Concepts of School Finance Equity: 1970 to Present. In H. Ladd, R. Chalk, & J. Hansen (Eds.), *Equity and Adequacy in Education Finance* (pp. 7-33). Washington, DC: National Academy Press.
3. Blue Ribbon Task Force on Financing Student Success: Final Report. Available online at: <http://www.blueribbontaskforce.ohio.gov/02022005brtf.pdf>. This report also provides a thorough and straightforward description of the school finance foundation program.
4. Ibid.
5. Berne, R. & Stiefel, L. (1999). Concepts of School Finance Equity: 1970 to Present. In H. Ladd, R. Chalk, & J. Hansen (Eds.), *Equity and Adequacy in Education Finance* (pp. 7-33). Washington, DC: National Academy Press.
6. Ibid.
7. For this chart, low-poverty districts are defined as those with fewer than 50% of their student population labeled as disadvantaged. High-poverty districts are defined as those with greater than 50% of their student population labeled as disadvantaged.
8. United States Department of Education: <http://www.ed.gov/about/overview/fed/10facts/index.html>.
9. Ohio Constitution, Article 6 §02. The provision reads in full: The General Assembly shall make such provisions, by taxation, or otherwise, as, with the income arising from the school trust fund, will secure a thorough and efficient system of common schools throughout the state; but no religious or other sect, or sects, shall ever have any exclusive right to, or control of, any part of the school funds of this state.
10. Among these organizations are the Buckeye Association of School Administrators, Ohio Association of Elementary School Administrators, Ohio Association of Public School Employees, Ohio Association of School Business Officials, Ohio Association of Secondary School Administrators, Ohio Education Association, Ohio Federation of Teachers, and Ohio School Boards Association.
11. For example see: <http://www.ohiocoalition.org/>.
12. Full text of the amendment is available at: www.rightforohio.org.
13. A thorough description of the Building Blocks funding program is available at: <http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEDetail.aspx?page=3&TopicRelationID=990&ContentID=14594&Content=27595>
14. Ibid.
15. For example, the following Ohio Legislative Budget Office report available at: http://www.lbo.state.oh.us/123ga/publications/special/ohioissues/issue_04.pdf. Also, many of the supporting briefs that were part of the DeRolph cases contained such analyses.
16. *Creating a World-Class Education System in Ohio*, available online at: <http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEDetail.aspx?page=3&TopicRelationID=10&ContentID=26907&Content=28846>.
17. Previous studies, such as Roza and Hill (2004), have focused only on major urban school system. The advantage of our analysis is that it includes all high-poverty school districts regardless of urbanization level.
18. Other categorical expenditures are for district-wide expenditures such as transportation and vocational education.
19. Another such schools, Alexander Graham Bell Elementary in Columbus, presented a unique situation with a low number of severely disabled students, which skewed the dataset. As such, it was removed.
20. <http://www2.selu.edu/Academics/Education/EDF600/Mod11/sld023.htm>
21. Kelly Warner-King and Veronica Smith-Casem. (2005). Addressing Funding Inequities Within Districts. Center on Reinventing Public Education, Working Paper #2005_2, p 12.
22. Ibid, p 11.
23. Ibid, p 11.
24. Marguerite Rosa and Paul T. Hill. (2004). How Within-District Spending Inequities Help Some Schools to Fail. Brookings Papers on Education Policy.
25. Available at: http://www.schoolcommunities.org/Archive/images/SBB_Tool.pdf.
26. Blue Ribbon Task Force on Financing Student Success: Final Report. Available online at: <http://www.blueribbontaskforce.ohio.gov/02022005brtf.pdf>.
27. Federal funds are explicitly designated for disadvantaged and special education students. A separate database was used to disaggregate the proportion of federal funding going to each category.
28. Annenberg Institute for School Reform, *Assessing Inequities in School Funding Within Districts*, June 2002.
29. Ibid.

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