OHIO EDUCATION POLICY INSTITUTE

Analysis of the Cupp-Patterson School Funding Proposal (HB 305)

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Overview and main findings

On March 25,2019, 10 days after Gov. Mike DeWine introduced his fiscal year (FY) 2020-21 budget, a group referred to as the "Cupp-Patterson Workgroup" released its proposed K-12 school-funding formula. Called the "Ohio Fair School Funding Plan," the proposal was developed by a group of school treasurers and superintendents convened in late 2017 by State Reps. Robert R. Cupp (R-Lima) and John Patterson (D-Jefferson).

The Cupp-Patterson school-funding proposal has the following main components:

- New input-based methodology for determining the base cost amount (which will vary based on district demographics).
- "Direct funding" of community schools, thereby eliminating the community school deduction approach.
- Increased funding for economically disadvantaged students
- New method for determining the state and local share of funding, replacing the current State Share Index.
- Recommendation that three studies be undertaken over the next two years to determine appropriate funding levels for English learners (EL); students with disabilities (update of the special education weights most recently updated in 2007); and the additional cost of educating economically disadvantaged students (several other studies were also recommended; however, these three studies most directly impact the school-funding formula).

A considerable amount of testimony relating to the Cupp-Patterson school-funding proposal was delivered during the course of the House of Representatives's deliberations on the FY 2020-21 budget. After district-by-district printouts of the Cupp-Patterson proposal indicated that a number of lower wealth urban and rural districts would receive little or no increases in funding if the Cupp-Patterson plan were enacted, Speaker of the House Larry Householder (R-Glenford) indicated that he felt that the plan required more study. Consequently, the House version of the FY 20-21 budget did not include the Cupp-Patterson funding formula. Neither the Senate nor the

conference committee version of the budget included the Cupp-Patterson funding formula, and only the study of economically disadvantaged students was included in the final budget; however, no funding was provided for this study.
Reps. Cupp and Patterson continued to work on refinements to the proposed new funding formula and introduced the revised plan as House Bill (HB) 305 on July 10, 2019. HB 305 differs from the initially proposed Cupp-Patterson school-funding formula in several respects:

- The local share formula was changed from a flat rate 2.25% of local wealth to a variable 2.0% to 2.5% rate, increasing as district income increases.
- The FY 20 base cost was reduced by an average of $134 per pupil as a result of using FY 18 salary data instead of the FY 19 estimated salaries used in the initial version of the funding plan.
- Supplemental Targeted Assistance was increased and moved outside the guarantee and is not subject to the phase-in.
- Transportation funding was moved outside the guarantee and has its own guarantee applied.
- The initial Cupp-Patterson funding plan had a four-year phase-in period while HB 305 has a six-year phase-in period.

While HB 305 makes significant progress by addressing the primary issues which have plagued Ohio's school funding system for many years (see list on page 1), there is still room for improvement. Bill sponsors Representatives Cupp and Patterson have indicated that they are seeking input for improving the proposal. The following are the main findings for improving the funding proposal from this analysis:

- The total resources analysis at the end of this report strongly suggests that the issues outlined below indicate that the current version of HB 305 does not go far enough in closing the equity gap between wealthier and less wealthy districts in Ohio. This is particularly evident when the higher cost of EL, special education, and low-income students is taken into account by using a weighted or "equivalent" pupil measure. This gap is evident in urban, rural, and small-town school districts and is most pronounced in the small town and rural districts. The issues outlined below contribute to the proposal's failure to close the gap. See pages 17-22.
- The input-based base cost methodology has been generally well received. However, the base cost computation should ideally always rely on the most currently available data, an inflation adjustment should be applied in each year that a full re-computation is not conducted, and a full re-computation of the base cost should be done at a prescribed interval (roughly every four to five years). See page 6.
- The movement from a fixed local capacity percentage of 2.25% to a variable capacity percentage ranging from 2.0% to 2.5% is a significant improvement from the initial March version of the Cupp-Patterson funding formula. However, the current method of computing the local capacity percentages needs to be further modified to more accurately reflect differences in ability to pay local taxes in higher and lower income districts. Expansion of the range of the local share percentage also should be strongly considered. See pages 16 and 17.

- A long-term solution involving a new method of computing targeted assistance to address issues created by using student counts based on enrollment rather than Formula ADM to determine local wealth will be necessary to ensure that urban districts are not left behind once HB 305 is fully phased in. See pages 13 & 14.
- A second problem relating to the targeted assistance computation involves districts which have a net increase in students as a result of open enrollment. Under HB 305, these districts receive an increase in targeted assistance because they appear less wealthy to the formula because their enrollments are greater than their current formula ADM. Basing a district's wealth on students who live outside the school district is illogical. For purposes of targeted assistance, the impact of open enrollment should not be considered in the student count. See page 13.
- HB 305 properly recognizes that cost studies relating to English learners, students with disabilities, and economically disadvantaged students need to be undertaken in order to properly fund these students. The state needs to be encouraged to find a way to fund and complete these studies in the FY 20-21 biennium. Furthermore, because of the new investment required to fund a new school funding formula, the recommendations from these studies should be implemented at the onset of the new plan to ensure that adequate funding will be available for these components. See pages 7-10.

Below is a more detailed review and analysis of the Cupp-Patterson funding proposal contained in HB 305.

A. Base cost methodology

It has long been understood in Ohio that the first step in developing an adequate school-funding formula is the utilization of a methodology to determine the "base cost." The base cost can be functionally defined as "the cost of educating the typical student in the typical school district." This number is essentially the starting point of the school funding formula with additional funding then provided to reflect additional costs relating to the characteristics of students and school districts. (Appendix A, OEPI's September 2018 "Overview of School Funding in Ohio" provides more detail regarding this issue.)

There are three general approaches to determining the base cost: 1) outcomes-based; 2) inputs-based; and 3) statistical analysis. Each of these methodologies has strengths and weaknesses.

The statistical analysis approach relies on a multivariable statistical analysis that assesses the circumstances of each school district and computes a unique overall educational cost for each district. While favored by a number of economists, this approach is often perceived as a "black box" and lacks the transparency often required by the policy making process.

The outcomes-based approach (sometimes referred to as the "Successful Schools" approach) was pioneered by John Augenblick and was in fact implemented in Ohio in the aftermath of the March 1997 *DeRolph* ruling. This methodology is based on the premise that a set of desired educational outcomes can be defined and measured and that the average cost in the school districts that meet the prescribed outcome criteria is determined to be the "base cost" of an adequate education. Very high performing (and typically very high spending) districts are often excluded when the base cost calculation is made according to this method, on the basis that the

goal is to price out an Accord and not a Cadillac. The primary drawback with this methodology is the difficulty in defining, agreeing on, and measuring adequate educational outcomes. This problem is further compounded in Ohio by the tendency over the past 20 years to change the state's outcome measures every several years, creating instability that is not suitable for deriving cost figures to be used in the funding formula.

The final main approach to determining the base cost is an inputs-based approach. The logic behind this approach is to define the necessary components of an adequate education and then cost out each component individually. This approach was used in Ohio after the Successful Schools approach was abandoned and was known as the "Building Blocks" approach. The Ohio Evidence Based Model (OEBM) for education which was developed by the Strickland administration and employed in the FY 10 and FY 11 school years was also an inputs-based approach to education funding.

Both the outcomes-based and inputs-based methods are much more transparent and understandable than is the statistical analysis approach. However, the inputs-based approach is likely to be more stable over time than is the outcomes-based approach. This is because input prices tend to move in more predictable ways over time than do educational outcomes, particularly when outcome measures are continually subject to modification.

The Cupp-Patterson work group selected an inputs-based methodology for use in its school-funding model. The main components of the HB 305 base cost model are:

- instructional costs, including teacher salaries and benefits and teacher professional development;
- instructional and student support costs, including high school guidance support, library and media, safety and security, student social and emotional support, technology, and co-curricular activities (such as band and athletics);
- school building leadership and operations (principals, administrative, building maintenance);
- central office staff (superintendent, treasurer, etc.).

Not included in the base cost calculation are costs related to the following:

- special education;
- gifted education;
- English learners;
- transportation;
- career-technical education;
- additional costs to serve students in poverty.

The costs of meeting these needs are addressed through additional funding components as is the case under previous funding formulas.

The Cupp-Patterson base cost model essentially delineates the quantity of each of the included educational components based on the number of students educated in each school district.[1] Once the various components are computed, a cost is attached by using FY 18 statewide average salary and expenditure data (an exception to this is for superintendent and treasurer salaries which are lower in smaller enrollment districts). In this regard, the general structure of the Cupp-Patterson base cost model is substantially similar to that of the OEBM.

The Cupp-Patterson base cost methodology would result in a unique base cost per pupil amount for each of Ohio's 610 school districts. This would be different from how Ohio's school-funding formula has worked since the 1980s when a single base cost amount for all districts has been in place for much of that time (in FY 1990 the base cost amount was $2,530 per pupil, and in FY 2019 it was $6,020 per pupil). The base cost would vary from district to district based on two factors: district size and the proportion of students at various grade levels.

District size would play a role in the base cost amount because each school district would be assured at least one superintendent, one treasurer, and several other administrative positions (such as EMIS coordinator), as well as minimum numbers of other positions (such as high school counselors), regardless of size.

The relative numbers of pupils at different grade levels would also make a difference in the base cost amount because the pupil/teacher ratio would increase as students get older. The Cupp-Patterson model would utilize the following pupil/teacher ratios:

- Kindergarten 20:1
- grades 1-3 23:1
- grades 4-8 25:1
- grades 9-12 27:1

Thus, a school district with a higher proportion of elementary school children would require slightly more teachers than a school district of the same size that has a higher proportion of high school students. This is because the higher student/teacher ratio in high school would allow for larger classes which would mean the same number of children can be taught with fewer teachers (which would lower the base cost figure).

<u>Updating the base cost calculation</u>

Every methodology for computing the base cost that has been used in Ohio has needed to have a procedure for updating the calculation from one year to the next. Even though it is possible to fully recompute the base cost annually, for interests of stability the conventional approach has been to update the calculation for several years using an inflation factor and then fully recompute the base cost every four to six years. The need to at least update for inflation would also be apparent even when the funding formula is subject to a phase-in period (as is the case is with HB 305).

[1] The number of students educated is essentially the formula ADM of each school district minus the number of students who attend a community school, the number who utilize one of the state's voucher programs to attend a private school, and the net change due to open enrollment (some districts gain more students than they lose through open enrollment while others districts lose more students than they gain).

For example, the first base cost methodology employed in Ohio was the Successful Schools model developed by John Augenblick. After the legislature modified Augenblick's model, the base cost figure arrived at for FY 1999 was $4,063 per pupil. This would have been an 11% increase from the FY 1998 level of $3,663 per pupil, and so the legislature decided to phase-in the Successful Schools model over three years. By increasing the FY 1999 $4,063 by an inflation factor of 2.8% in both FY 2000 and FY 2001, an inflation-adjusted base cost figure of $4,294 for FY 2001 was computed. To reach this FY 2001 target figure the legislature enacted 5% increases in the per pupil amount in FY 1999 and FY 2000 and a 6% increase in FY 2001, resulting in an FY 2001 base cost equal to the $4,294 per pupil target figure.
In contrast, HB 305 would employ the following implementation schedule for the base cost calculation:

- FY 2020 base cost calculation would be based on FY 2018 salary and expenditure data;
- FY 2021, FY 2022 and FY 2023 base cost calculations would be based on FY 2020 salary and expenditure data;
- FY 2024 base cost calculation would use a CPI adjustment to the FY 2020 data used in the preceding three years;
- FY 2025 base cost calculation would be based on FY 2024 salary and expenditure data;
- FY 2026 and every succeeding fourth year would use salary and expenditure data from the second preceding fiscal year (i.e. FY 24 in FY 26, FY 28 in FY 30, etc.).

In order to provide stability in school funding, the process for updating the base cost methodology described immediately above should be made more consistent on a year-to-year basis.

The first issue is that a decision would need to be made as to whether it is most appropriate to use salary and expenditure data from the immediately preceding year or the second preceding year to the school year in question. As a general rule of thumb, for issues of this nature, the most recent available data should be used, and so the answer to this question may lie in the timing of when the necessary salary and expenditure data are available. The fact that the HB 305 implementation schedule would call for the FY 21 base cost calculation to be based on FY 20 salary and expenditure data (and similarly for the FY 25 base cost and FY 24 data) suggests that it is in fact feasible to use data from the immediately preceding year. If that is the case, it is reasonable to question why the HB 305 FY 20 base cost calculation is based on FY 18 data rather than on FY 19 data. It is also reasonable to question why what appears to be the long-range base cost plan in HB 305 is to be based on data from the second preceding year rather than the immediately preceding year.

Another concern relating to the HB 305 base cost implementation schedule is why the FY 22 and FY 23 base cost calculations would continue to be based on FY 20 salary and expenditure data. At a minimum, the base cost figures in these two years should be based on an inflation adjustment from the FY 20 data. Over the past six years inflation has averaged roughly 1.5% per year (based on the CPI).

A more rational phase-in plan for HB 305 would be the following:

- FY 20 base cost calculation would be based on FY 18 salary and expenditure data (FY 19 if available)
- FY 21, FY 22, FY 23, FY 24 and FY 25 base cost calculations would be based on 1.5% inflation adjustment to FY 20 base cost figures. FY 25 would represent the end of the six-year phase-in period.
- FY 26 base cost calculation would be based on FY 24 (or FY 25 if available) base cost salary data.
- Succeeding three years would be based on an inflation adjustment before recalculation in FY 30.

An alternate plan would be the same as above but would call for a base cost recalculation in FY 24 rather than in FY 26. This would be for year five of the six-year phase-in period. The next recalculation would be in FY 28 with inflation adjustments in between.

B. "Categorical" Funding Cost components

The base cost methodology is only the first of three essential steps in creating an equitable and adequate school-funding formula. The second step is to provide adequate funding for the additional costs of districts and students with atypical needs. These additional funding elements are commonly known as the "categoricals" in Ohio.

1. Special education

HB 305 would restore the current system (that uses a per pupil amount for each of the six special education funding categories) to the prior weighted pupil system that had been in place since FY 02. Under HB 305, the special education weights would be recalibrated so that they would generate the same additional funding as was generated with the FY 19 per pupil funding amounts. Table 1 below provides a comparison between the FY 19 special education per pupil funding amounts and the FY 20 special education weights under HB 305.

Table 1: FY 19 and HB 305 FY 20 special education funding parameters

Special Education Funding Category	FY 19 per-pupil amount	FY 20 HB 305 weight
Category 1	$1,578	0.2439
Category 2	$4,005	0.6189
Category 3	$9,622	1.4869
Category 4	$12,841	1.9844
Category 5	$17,390	2.6874
Category 6	$25,637	3.9618

The FY 20 weights, when multiplied by the statewide average base cost figure ($7,190 per pupil) then multiplied by 0.9 (to reflect that the weights have never been funded at more than 90%), would generate the per pupil amounts shown in Column 2 for FY 19.

While the HB 305 weights would preserve the FY 19 special education funding levels, it is well understood that the FY 19 funding levels are now long out of date. The last time the special

education weights were costed out was in 2008. Consequently, the Cupp-Patterson work group recommended that a study be done to update the special education weights based on current cost and service delivery conditions. The recommended study to update the cost of special education in Ohio would result in further modifications to the weights shown in Table 1. However, this study was not included in the final version of the FY 20-21 budget bill.

2. English learners (EL)

The same approach that was taken for special education in HB 305 was also taken for funding English learners (formerly known as "Limited English Proficient or "LEP" students). Under HB 305, the EL weights have been recalibrated so that they would generate the same additional funding as was generated with the FY 19 per-pupil funding amounts. Table 2 below shows a comparison between the FY 19 EL per pupil funding amounts and the FY 20 EL weights under HB 305. A study of EL weights was also recommended by the Cupp-Patterson work group, but like the special education cost study, was not included in the final version of the FY 20-21 budget.

Table 2: FY 19 and HB 305 FY 20 EL funding parameters

English Learners Funding Category	FY 19 per-pupil amount	FY 20 HB 305 weight
Category 1	$1,515	0.2107
Category 2	$1,136	0.1580
Category 3	$758	0.1054

3. Career technical education (CTE)

As was the case with special education and EL funding, under HB 305 the career technical education weights would be recalibrated so that they would generate the same additional funding as was generated with the FY 19 per pupil funding amounts. The only difference with respect to career-tech is that the weights would be calibrated against the FY 20 statewide average career technical education base cost amount ($8,326) rather than against the general education base cost amount as was the case with special education and EL. Table 3 below shows a comparison between the FY 19 career technical education per-pupil funding amounts and the FY 20 career technical education weights under HB 305.

Table 3: FY 19 and HB 305 FY 20 Career Technical Education funding parameters

Career Technical Funding Category	FY 19 per-pupil amount	FY20 HB 305 weight
Category 1	$5,192	0.6236
Category 2	$4,921	0.5910
Category 3	$1,795	0.2156
Category 4	$1,525	0.1832
Category 5	$1,308	0.1571
Associated Services	$245	0.0294

4. Economically disadvantaged student funding

The FY 19 economically disadvantaged aid formula can be summarized in the following steps:
a) Economically disadvantaged base funding amount = $272 per pupil
b) Economic Disadvantaged Index = District % of economically disadvantaged students / state average % of disadvantaged students
c) State average % of students = 47.9%
d) Economic Disadvantaged Aid = $272 * (ED Index)^2 * # of Econ. Disadvantaged Students

The ED Index is squared so that the per-pupil amount increases as the percentage of low-income students in the district increases. This is consistent with research showing the cost of educating these students increases with their concentration.

To illustrate how the FY 19 economically disadvantaged aid formula worked, consider a district with 100% economically disadvantaged students currently receiving $1,186 per student:
100/47.9 = 2.088
2.088*2.088 = 4.36
$272 * 4.36 = $1,186 per pupil

Now consider that the FY 19 base cost amount is $6,020 per pupil.
$1,186 / $6,020 =19.7%

National research indicates that economically disadvantaged students typically cost at least 30% more to educate than do nondisadvantaged students. However, the calculation above shows that Ohio's current formula only provides additional funding at less than 20% of the base cost — and this is in a district with **all** economically disadvantaged students. Funding is an even lower percentage in districts with less than 100% economically disadvantaged students.

HB 305 would call for the economically disadvantaged aid base amount to increase by $150 per student to $422 per student in FY 20.

If the statewide percentage of economically disadvantaged students remained at 47.9% in FY 20 then a district with 100% economically disadvantaged students would receive:
$422 * 4.36 = $1,840 per pupil

$1,840 / $6,020 = 30.6% which means that a district with all economically disadvantaged students would receive slightly more than 30% of the *current FY 19* base cost amount in FY 20.

In FY 19 economically disadvantaged aid was $451 million prior to the gain cap and $418 million after the application of the gain cap. Economically disadvantaged aid would be roughly $561 million in FY 20 under HB 305.

However, economically disadvantaged student aid is part of the six-year phase-in so a district would not receive all of this additional funding in the years FY 20 through FY 24.

Additionally, the state average base cost amount would increase to $7,190 in FY 20 under the Cupp-Patterson plan. Thus, the per-pupil amount of economically disadvantaged funding received in FY 20, even if there were no phase-in, would only be 25.6% of the new base cost.

Finally, HB 305 would direct the state to undertake a study of the true cost of educating economically disadvantaged students in Ohio. Such a study has never been undertaken in Ohio. The final version of the FY 20-21 state budget did include a provision directing the Ohio Department of Education to oversee such a study; however, no funding was earmarked for this purpose. The state needs to be encouraged to find a way to fund and complete these studies in the FY 20-21 biennium. Further, because of the new investment required to fund a new school-funding formula, the adoption of the recommendations from these studies should be enacted simultaneously to ensure these components are part of the new plan.

5. Gifted education funding

HB 305 would adopt the recommendations from the 2018 ODE Gifted Education cost study for identification, referrals, coordination, and student services. HB 305 also would recommend that the accuracy of gifted expenditure reporting be examined and that a study be done to examine how to better incentivize and deliver services to gifted students in rural districts.

6. K-3 literacy funding

HB 305 would eliminate the K-3 literacy funding component that has been in place from FY 14-FY 19 on the basis that K-3 literacy needs would now be included in base cost funding.

7. Transportation funding

Transportation funding is extraordinarily complicated in Ohio. One of the reasons for this complexity is that transportation needs differ widely across school districts. Urban districts bus a very large number of students but also have high population density. Many rural districts are the opposite — they are sparsely populated and must bus a relatively small number of students over a very large geographic area. This is why Ohio's transportation formula currently allows some districts to be funded based on the number of students they bus while others are funded based on the number of miles they cover.

Transportation services (and funding) are further complicated in Ohio by the mandate that the traditional public school districts also be responsible for the busing of community school and private school children. This creates problems not only of cost but of logistics, as daily schedules and yearly school calendars often do not overlap in a synchronized fashion.

HB 305 includes a host of detailed changes to the delivery and funding of transportation services. Two of the most significant from a funding perspective are:

- increase minimum state share of transportation funding from 25% back up to 60%;
- elimination of the transportation supplement that has been in place since FY 14.

C. Supplemental funding: Targeted Assistance and Capacity Aid

In the aftermath of the *DeRolph* ruling, Ohio began to provide supplemental funding to lower wealth school districts so that they could provide additional educational services beyond mere

adequacy, as is the case in Ohio's wealthier districts. The first attempt at such a program was called Power Equalizing Assistance which began in FY 99 and provided a modest amount of additional funding ($32 million in FY 01).

Power Equalizing Assistance was replaced by Parity Aid in FY 02. As initially enacted, Parity Aid provided additional funding to districts below the 80th percentile in local wealth per pupil. Local wealth was computed as a combination of district total property valuation and the income of district residents. The 80th percentile meant that the 490 lowest wealth districts would receive aid. The objective of parity aid was to provide the 80% of the lowest wealth districts in Ohio with additional resources beyond that provided through the foundation formula and the categorical aid programs. Parity Aid funding began at $100 million in FY 02 and reached $511 million in FY 09.

Parity Aid was replaced by Targeted Assistance in FY 14 (there was no Parity Aid under the OEBM in FY 10 and FY 11 or under the Bridge formula in FY 12 and FY 13). Targeted Assistance had two components: a wealth-based component similar to Parity Aid and a second tier of funding that was directed towards school districts in which agricultural property comprised more than 10% of their real property valuation. The wealth-based component of Targeted Assistance was $604 million in FY 14 and grew to roughly $802 million in FY 19 (prior to the application of the gain cap). The Ag-based second tier of Targeted Assistance began at $91 million in FY 14 and grew to roughly $170 million prior to the gain cap. In FY 19, 335 districts received Ag-based Targeted Assistance.

In FY 16, a third equity-oriented funding component known as Capacity Aid was implemented. Capacity Aid was designed to provide supplemental funding to smaller school districts with relatively low property wealth in an absolute sense as measured by the revenue generated by one mill (as opposed to Targeted Assistance which is based on relatively low valuation and income on a per-pupil basis). Capacity Aid districts struggle to raise adequate revenue from local levies by virtue of their small size and tax base. Capacity Aid was $143 million in FY 16 and grew to roughly $202 million in FY 19 after the gain cap.

In FY 19, Wealth-based Targeted Assistance, Ag-based Target Assistance, and Capacity Aid totaled $1.17 billion prior to the application of the gain cap.

HB 305 would make several changes to Targeted Assistance and Capacity Aid. These changes would be:

- elimination of the Agricultural tier of Targeted Assistance;
- wealth-based tier of Targeted Assistance now based on wealth per pupil using district enrollment rather than Formula ADM;
- addition of "Supplemental Targeted Assistance" (received by 35 districts);
- modification of the Capacity Aid Formula.

Table 4 on the following page provides a comparison of Targeted Assistance and Capacity Aid in FY 19 and what it would be in FY 20 under the Cupp-Patterson funding proposal.

Table 4 shows that in comparison to FY 19 funding amounts prior to the gain cap (which provides a comparison of how the current and proposed formulas work without the artificial cap limitation), the proposed HB 305 formula would provide $302.7 million (31%) less in Targeted Assistance than did the FY 19 formula. When the increase in Capacity Aid is considered, the reduction in funding would be $275.9 million (23.5%). Note that post-cap total Targeted Assistance was $927.4 million in FY 19 while post-cap Capacity Aid was $198.2 million for a total of $1,125.6 million. Thus, the HB 305 total of $987.3 million would still be 20.3% below the actual FY 19 post-cap funding levels for Targeted Assistance and Capacity Aid.

Table 4: FY 19 and HB 305 FY 20 Targeted Assistance and Capacity Aid ($ in millions)

Funding Component	FY 19*	FY 20 HB 305	Difference
Wealth-Based Targeted Assistance	$801.8 million	$611.0 million	-$190.8 million
Ag-Based Targeted Assistance	$169.6 million	$0	-$169.6 million
Supplemental Targeted Assistance	$0	$57.7 million	$57.5 million
Targeted Assistance subtotal	**$971.4 million**	**$668.7 million**	**-$302.7 million**
Capacity Aid	$201.8 million	$228.6 million	$26.8 million
Total funding	**$1,173.2 million**	**$897.3 million**	**-$275.9 million**

* FY19 funding amounts are prior to application of the gain cap

While it might be argued that the HB 305 increase in base cost would render supplemental funding such as Targeted Assistance and Capacity Aid less important, this line of reasoning would betray a fundamental misunderstanding of the purposes of these two components of Ohio's school funding formula. Wealthier school districts — who benefit from the nearly $1,200 per-pupil increase in the base cost amount just as the less wealthy districts do — would still maintain a sizeable advantage in local revenue raising ability that would allow them to provide educational programming and services beyond what the state formula funds. Targeted Assistance and Capacity Aid would still be necessary to provide smaller low wealth districts with the ability to provide similar, equitable opportunities for their students.

Elimination of the Ag-Based Tier of Targeted Assistance — Ag-based targeted assistance would be eliminated based on the premise that it was duplicative with Capacity Aid. However, this change would disadvantage 97 rural districts that received Ag-Based Targeted Assistance in FY 19 but are too large (or too wealthy) to qualify for Capacity Aid. Additionally, there would be another 81 districts that received both Ag-Based Targeted Assistance and Capacity Aid in FY 19 and received more from the former than they did from the latter. Thus, 178 of the 335 (53%) of the districts that received Ag-based Targeted Assistance in FY 19 received more from this funding component than they did through Capacity Aid. These districts would be the most affected by its elimination.

Wealth Tier of Targeted Assistance based on wealth per pupil using enrollment not formula ADM as pupil count — This change (which would occur because the HB 305 base cost

methodology would utilize the number of students actually educated in the district as opposed to the number of children who reside in the district) is one of the most significant changes to the funding formula which would be made by HB 305. The impact of this change on the wealth-based tier of Targeted Assistance would be to dramatically disadvantage urban districts that lose many pupils to community schools and vouchers. This occurs because the district's wealth would be divided by the smaller enrollment figure instead of by formula ADM, which would make them look wealthier under the HB 305 version of Targeted Assistance than they did under the FY 19 version of Targeted Assistance. The use of enrollment would also unfairly reward districts that gain pupils through open enrollment because their wealth would be lowered as a result of educating students from outside their boundaries. It is difficult to imagine any defensible rationale for assessing a district's ability to provide educational opportunities for its students that is based on students who live outside that district.

To illustrate the severe impact that switching from formula ADM to enrollment would have on the calculation of wealth-based Targeted Assistance, consider Youngstown City Schools. In FY 19, Youngstown City ranked as the poorest district in Ohio with a wealth per-pupil figure of $61,099 based on formula ADM of 9,726. If Youngstown City's FY 19 enrollment figure of 4,832 was used as the denominator instead, Youngstown City would become the 94th poorest district at $122,969 per pupil. This change in wealth would have cost Youngstown City $13.6 million in Targeted Assistance in FY 19 (a decrease from the $17.8 million it did receive (pre-cap) to $4.5 million it would have received if enrollment were used as the denominator).

Following is a list of the 10 districts that would have lost the most in Targeted Assistance had enrollment instead of formula ADM been used in FY19.

1. Cleveland Municipal -$27.6 million
2. Columbus City -$27.1 million
3. DaytonCity -$21.0 million
4. Toledo City -$19.1 million
5. Youngstown City -$13.54 million
6. Cincinnati Public -$11.4 million
7. Lorain City -$10.1 million
8. Euclid City -$4.7 million
9. Lima City -$4.0 million
10. Mansfield City -$3.0 million

When providing testimony in support of their plan, members of the Cupp-Patterson work group explained the above outcomes by saying that the number of students educated in the district is in fact the more appropriate measure for determining wealth than is the number of students who live in the district. While this is certainly true for the calculation of an input-based base cost measure, it is less clear for a measure that is designed explicitly to help less wealthy districts keep pace with their wealthier neighbors in providing educational opportunities for their students. Moreover, regardless of the theoretical merits of one student count versus another for making a per-pupil wealth calculation, the funding impact was clearly that high poverty urban districts lost so much revenue from Targeted Assistance under the initial Cupp-Patterson

proposal that most of them ended up on the guarantee or with much smaller revenue increases than did the wealthier districts in the state.

Supplemental Targeted Assistance — In order to offset the impact of wealth being based on enrollment rather than formula ADM, the revised version of the Cupp-Patterson plan presented in HB 305 created a new Tier of Targeted Assistance known as "Supplemental Targeted Assistance." Supplemental Targeted Assistance was designed primarily to direct more money to urban districts which lost a significant number of pupils to charter schools, vouchers and/or open enrollment (the cutoff was set at a 12% reduction in students) and would be outside both the HB 305 phase-in and guarantee. Thirty-five districts would receive a total of $58 million in Supplemental Targeted Assistance in FY 20 under HB 305. Supplemental Targeted Assistance would appear to work effectively in the short run, but in the long run many urban districts (including Dayton City, Youngstown City, Lorain City, Lima City and Toledo City) would end up on the guarantee and would not receive additional funding over time after the plan is fully phased in. Thus, Supplemental Targeted Assistance should be viewed as a short-term band-aid until a long-term solution to the "wealth per enrolled pupil" issue is satisfactorily resolved.

Capacity Aid formula — The HB 305 Capacity Aid formula would differ from the FY 19 formula in the following respects:

- use of weighted property (60%) and income (40%) wealth instead of just property valuation;
- use of enrollment instead of formula ADM;
- higher millage multiplier.

While the total amount of funding through Capacity Aid in HB 305 would be 13% larger in FY 20 than was Capacity Aid in FY 19, the distribution of the funding appears to be significantly different and some districts would get large increases while other districts would receive large reductions. It is likely that this result is primarily due to the change in the Capacity Aid wealth measure to include income and, to a lesser extent, from the use of enrollment rather than formula ADM to determine Capacity Aid funding under HB 305. The increase in the millage multiplier is likely to offset the effect of using the smaller enrollment figure.

The Cupp-Patterson work group believes that HB 305 is simpler because it uses a similar wealth measure for the local share calculation, for the Targeted Assistance calculation, and for Capacity Aid. However, the very nature of Capacity Aid, which is based on the revenue to be raised from 1 mill of property taxation, suggests that it would be more appropriate to use the current property wealth measure as opposed to the weighted property/income wealth measure.

D. Community school funding

One implication of using an input-based model of the type included in HB 305 is that it would mandate that community schools be funded directly by the state as opposed to the current mechanism known as the community school deduction that has been in place since FY 99. The community school deduction counts community school (and most voucher students) in the formula ADM of the school district in which they live. Districts receive state funding for these students as if they attended the district schools but then see this funding deducted from their state funding total and redirected to the community schools. The community school deduction has

created a significant amount of animosity between the traditional school districts and the community schools over the past 20 years. This is because the community school deduction effectively transfers local revenue as well as state funding to the community schools. This occurs because the amount of revenue transferred to the community schools exceeds the amount received by the districts in state aid for those students (the actual disparity varies in proportion to the state share of aid received by each school district).

The Cupp-Patterson input-based funding model would avoid this problem because funding would be computed for each school district in accordance with the number of pupils educated in the district each year, as the student count is what determines the number of teachers and support services needed. Because the community school (and voucher) students would not be included in this resident district pupil count, the state would need to provide funding for these students directly.

HB 305 would also provide increases in the community school base funding amount of $159 per pupil in both FY 20 and FY 21.

E. State and local share calculation

From the mid-1980s through FY 11, Ohio's school-funding formula determined the local share of funding through a method known as the "charge-off." The charge-off worked by taking a set millage amount (which over the years ranged from 20 mills to 23 mills) and multiplying it by district property valuation. This approach was considered to result in equitable funding because multiplying each district's valuation by the same charge-off figure resulted in a higher local contribution in wealthier districts and a lower contribution in poorer districts.

Beginning in FY 94 the charge-off was gradually increased from 20 to 23 mills which improved equity by: 1) increasing the local share more in wealthier districts than in poor districts; and 2) using the money that the state saved by increasing the local contribution in all districts to raise the base cost figure. By combining these two changes, poor districts received a larger share of state funding at the higher charge-off millage than they did previously.

In FY 97, a second change was made to the charge-off which was to use an income factor to adjust the property wealth measure downward in districts whose median income was below the statewide median income. By lowering property valuations, these low-income districts would have their local contribution to the formula decreased and therefore receive more state aid, further improving the equity of the system. This is logical in the sense that districts with more low-income people have more difficulty passing levies and leveraging their local tax bases than do districts with more high-income residents who have the disposable income to support local taxes. This feature was discontinued after FY 02, however.

The charge-off has the advantage of being a fairly simple and understandable method for computing each district's local share, and it is used in many other states. However, in Ohio a charge-off approach has a disadvantage that has become known as "phantom revenue." Phantom revenue is the phenomenon whereby a district's property valuation will typically increase after a property reappraisal; however, the district typically will not receive a commensurate increase in

local property tax revenue because of the HB 920 tax reduction factors.[2] As a result the district looks wealthier on paper to the state-funding formula than it actually is in terms of local tax revenue, hence the term "phantom" revenue which is actually not realized by the district.

Beginning in FY 14 the charge-off approach to the local share calculation was replaced by the State Share Index (SSI). SSI was a complicated calculation that involved the calculation of a property wealth index, an income index, and an overall wealth index, which for some districts was just based on property wealth and for other districts was a combination of both income and property wealth. While well intentioned as an alternative to the charge-off, it quickly because clear that SSI was problematic in many respects. Beyond its sheer complexity which made SSI difficult to explain and to forecast from one year to the next, the implementation of income into the SSI calculation was not entirely rational, thereby creating inequities. Many higher income districts benefited from the income factor (thereby inappropriately increasing their state aid), while most lower income districts did not benefit from the income factor, which would have justifiably increased state aid in light of the lesser ability to pay local taxes of their residents. Additionally, the property wealth index ranked districts against one another, causing changes in property values in subsets of Ohio's 610 school districts to impact the state and local share in all of the districts. Finally, even though the impact of phantom revenue was not as obvious under SSI as under the charge-off, phantom revenue was in fact still present in SSI.

Both the initial and the revised versions of the Cupp-Patterson funding proposal replace SSI with a different method of computing the local share of funding. Referred to as the "local capacity measure," the HB 305 local share has elements of both the charge-off and SSI.
Like SSI, the HB 305 local capacity measure is based on a wealth measure that is a combination of property wealth (60%) and two different measures of income (20% each). This wealth measure would be an improvement on SSI in the sense that income is incorporated consistently and logically for all districts. The same wealth measure would also be used for Targeted Assistance, which would create more consistency in the funding formula than is the case currently.

Like the charge-off, this HB 305 wealth measure is then multiplied by a constant. In the initial version of the Cupp-Patterson proposal, introduced in March, this constant was 2.25% (equivalent to 22.5 mills) for all districts. In HB 305, this flat rate of 2.25% has been changed to a variable rate ranging from 2.0% to 2.5% depending on a district's median income. As described above with the charge-off, the logic of having a variable local share percentage is that higher income residents are better able to afford local taxes than are lower income residents, and so it is equitable for the local share for higher wealth districts to be computed at a higher rate.

While the change from a fixed to a variable local percentage in the HB 305 version of the Cupp-Patterson funding formula is an improvement in equity compared to the initial March 2019 version, this aspect of the HB 305 formula still requires modification.

[2] "HB 920" refers to the 1976 legislation which created the property tax rollbacks which were intended to protect homeowners from undue increases in property taxes as a result of inflation in home values. It was later put in the Ohio Constitution by statewide vote in 1980.

Under HB 305, 135 school districts whose median income is less than $33,459 would have a local capacity percentage of 2.0%. The lowest of these districts (New Boston Local in Scioto County) has a median income of $21,106. The highest of these districts has a median income of $33,515, yet all 135 districts have the same 2.0% local capacity percentage. The statewide median income is $38,478. A district with this level of median income would have a local capacity percentage of 2.3% under HB 305. At the upper end of the income spectrum, 184 districts would be at the 2.5% maximum local capacity percentage, and these districts vary dramatically from one another. Northern Local School District in Perry County has a median income of $41,826 while Orange City School District has a median income of $93,421 (more than twice as much), and yet both have the same local capacity percentage which is clearly inequitable.

The HB 305 local capacity percentages should be modified in three ways to increase equity and more accurately reflect differences in ability-to-pay across districts:

1. A district with a median income at the statewide median should have a local capacity percentage at the midpoint of the range (i.e. 2.25% if the range is 2.0% to 2.5%).
2. The local capacity percentage should be scaled to more appropriately reflect differences in median income (and hence ability-to-pay) across school districts. If this is done, disparate districts — at both the low and high ends of the median income spectrum — would not have the same local capacity percentage.
3. A broader range in the local capacity percentage beyond 2.05 to 2.5% should be strongly considered.

As a final note, the state share for the categoricals would be handled the same way under HB 305 as under the change-off and SSI methods. Under all of these versions of the formula, the state share applied to each district's base cost funding is also applied to each of the categoricals for which there is a state and local share of funding.

F. Analysis by typology and wealth quintile

This section of this report provides analysis of the extent to which HB 305 improves equity across Ohio's 610 school districts. This is done by conducting typology and property wealth quintile analysis of the HB 305 plan under both the first two years of a planned six-year phase-in period and also for a fully phased-in version of the plan in FY 20. Comparisons are shown for changes in state aid and also for total state and local resources.

Typology and quintile analysis is a method for analyzing how funding flows across Ohio's many different types of school districts. The "typologies" were developed by the Ohio Department of Education and were last updated in 2013. Districts are classified as "rural," "small town," "suburban" or "urban," and each of these four categories is further split into two subtypes based on size and relative level of affluence. Note that the "Major Urban" school districts are Akron City, Cincinnati Public, Cleveland Municipal, Columbus City, Dayton City and Toledo City. The property wealth quintiles break Ohio's 610 school districts into five equal sized groups of 122 districts based on property value per pupil. (Appendix B, OEPI's August 2018 report "Analysis of Changes in the Equity in School Funding FY91-FY19" provides analysis showing that the

overall improvement in equity since the March 1997 *DeRolph I* Ohio Supreme Court ruling has been less than many people anticipated it would be.)

Tables 5 and 6 show the typology and quintile comparisons of FY 19 foundation funding (net of community school, voucher and open enrollment transfers) with the first two years (FY 20 and FY 21) of the phase-in of HB 305.

Table 5 shows that poor rural, poor small town, urban, and major urban school districts would receive the highest average increases in foundation aid in the first two years of HB 305.

Table 5: FY 19 & HB 305 FY 20 and FY 21 state aid per pupil by typology group

Typology group	FY 19 Foundation Aid per pupil*	FY 20 HB 305 Foundation Aid per pupil	FY 21 HB 305 Foundation Aid per pupil	FY 19 to FY 20 per-pupil increase in state aid	FY 19 to FY 21 per-pupil increase in state aid
Poor Rural	$6,561	$6,792	$6,917	**$231**	**$357**
Rural	$6,646	$6,843	$6,965	$196	$319
Small Town	$4,221	$4,359	$4,453	$139	$232
Poor Small Town	$5,319	$5,580	$5,753	**$262**	**$434**
Suburban	$2,695	$2,791	$2,873	$97	$179
Wealthy Suburban	$1,881	$1,973	$2,049	$92	$169
Urban	$6,414	$6,800	$6,997	**$386**	**$582**
Major Urban	$6,087	$6,317	$6,449	**$231**	**$363**
State Total	**$4,557**	**$4,752**	**$4,873**	**$194**	**$316**

* March #1 SFPR Net of Community School, Scholarship/Voucher and Open Enrollment transfers

Table 6 shows that districts in the bottom two property wealth quintiles would have the highest average highest average increases in foundation aid in the first two years of HB 305.

Table 6: FY 19 & HB 305 FY 20 & FY 21 state aid per pupil by property wealth quintile

Property wealth quintile	FY 19 Foundation Aid per pupil*	FY 20 HB 305 Foundation Aid per pupil	FY 21 HB 305 Foundation Aid per pupil	FY 19 to FY 20 per-pupil increase in state aid	FY19 to FY21 per-pupil increase in state aid
Q1 (Poorest)	$7,723	$8,041	$8,184	**$318**	**$460**
Q2	$4,774	$5,003	$5,180	**$229**	**$406**
Q3	$4,169	$4,321	$4,410	$152	$241
Q4	$2,875	$3,004	$3,114	$129	$240
Q5 (Wealthiest)	$2,079	$2,174	$2,246	$95	$168
State Total	**$4,557**	**$4,752**	**$4,873**	**$194**	**$316**

Tables 7 and 8 show the typology and quintile comparisons of FY 19 foundation funding (net of community school, voucher, and open enrollment transfers) with HB 305 state aid ***as if it were fully phased in in FY 20.***

Table 7: FY 19 and HB 305 FY 20 fully phased-in state aid per pupil by typology group

Typology group	FY 19 Foundation Aid per pupil*	FY 20 HB 305 Foundation Aid per pupil fully phased in	FY 19 to FY 20 per-pupil increase in state aid
Poor Rural	$6,561	$7,421	$860
Rural	$6,646	$7,407	$760
Small Town	$4,221	$4,937	$716
Poor Small Town	$5,319	$6,501	**$1,182**
Suburban	$2,695	$3,311	$617
Wealthy Suburban	$1,881	$2,460	$579
Urban	$6,414	$7,811	**$1,397**
Major Urban	$6,087	$7,151	**$1,065**
State Total	**$4,557**	**$5,437**	**$880**

* March #1 SFPR Net of Community School, Scholarship/Voucher, and Open Enrollment transfers

Table 7 shows that poor small town, urban and major urban school districts would receive the highest average increases in foundation aid if HB 305 were implemented and fully funded in FY 20 with no phase-in period. Note that poor rural districts would receive an average increase of only $281 per pupil more than the average increase received by wealthy suburban school districts.

Table 8: FY 19 & HB 305 FY 20 fully phased-in state aid per pupil by property wealth quintile

Property wealth quintile	FY 19 Foundation Aid per pupil*	FY 20 HB 305 Foundation Aid per-pupil fully phased in	FY19 to FY20 per-pupil increase in state aid
Q1 (Poorest)	$7,723	$8,733	**$1,009**
Q2	$4,774	$6,040	**$1,266**
Q3	$4,169	$4,917	$749
Q4	$2,875	$3,647	$772
Q5 (Wealthiest)	$2,079	$2,584	$505
State Total	**$4,557**	**$5,437**	**$880**

Table 8 shows that districts in the bottom two property wealth quintiles would have the highest average increases in foundation aid if HB 305 were implemented and fully funded in FY 20 with no phase-in period. However, the average increase in the poorest quintile is $257 per pupil less than that of the second poorest quintile.

Tables 9 and 10 provide a comparison of FY 19 total state and local resources by typology and property wealth quintile. State resources include foundation funding and TPP current expense levy replacement payments. Local resources include property tax revenues for operating purposes, school district income tax revenues for operating purposes, and casino tax revenues. Examining patterns of total state and local resources provides a more comprehensive view of Ohio's school-funding system than does just looking at patterns of state aid.

The first three columns in Tables 9 and 10 show total resources per pupil in FY 19, total resources per pupil in FY 20 if HB 305 were fully phased in, and the increase from FY 19 to FY 20. The three rightmost columns of Tables 9 and 10 provide the same comparison; however, the per-pupil measure is based upon an "equivalent pupil" measure which weights students with disabilities, English learners, and economically disadvantaged pupils in proportion to the higher cost of educating such students. The ODE district report cards now use the expenditure per equivalent pupil as the reported spending measure in each district. Examining patterns based on ***total state and local resources per equivalent pupil*** provides the truest picture of the equity of Ohio's school-funding system by adjusting for districts' relative cost of educating their varied populations of students.

Column 1 of Table 9 shows that urban ($13,454) and major urban ($15,470) school districts have the highest total resources per pupil; however, wealthy suburban districts ($12,807) currently have higher average total resources per pupil than do rural and small town school districts. However, the picture is very different when FY19 total resources are adjusted for equivalent pupils (Column 4). ***When adjusted for cost differences, wealthy suburban districts ($10,110) are now shown to have the highest total resources in FY 19 with the major urban districts ($9,884) second highest and $226 per pupil lower.***

Table 9: FY 19 and FY 20 HB 305 <u>fully phased-in</u> local, state and total resources by typology group

Typology group	(1) FY 19 total resources per pupil	(2) FY 20 HB 305 fully phased-in total resources per pupil	(3) FY 19 to FY 20 per-pupil increase in total resources	(4) FY 19 total resources per <u>equiv.</u> pupil	(5) FY 20 HB 305 fully phased-in total resources per <u>equiv.</u> pupil	(6) FY 19 to FY 20 per-<u>equiv.</u>-pupil increase in total resources
Poor Rural	$11,152	$12,310	$1,158	$8,976	$9,908	$932
Rural	$11,256	$12,203	$948	$9,356	$10,143	$788
Small Town	$9,963	$10,833	$870	$8,500	$9,242	$743
Poor Small Town	$10,386	$11,657	$1,271	$8,250	$9,260	$1,010
Suburban	$10,893	$11,739	$847	$9,055	$9,758	$704
Wealthy Suburban	**$11,901**	**$12,807**	$906	**$10,110**	**$10,879**	$769
Urban	$12,036	**$13,454**	$1,418	**$8,945**	$9,999	$1,054
Major Urban	$14,355	**$15,470**	$1,115	**$9,884**	$10,652	$768
State Total	**$11,486**	**$12,541**	**$1,055**	**$9,165**	**$10,007**	**$842**

A similar pattern is apparent in Table 10 which shows the same data by wealth quintile. FY 19 total resources per pupil are highest at $12,588 in quintile 5 (the wealthiest districts); however, the gap significantly increases when total resources per equivalent pupil are computed. The wealthiest districts currently average $10,558 per equivalent pupil, which is nearly $1,400 per pupil higher than the next highest quintile (Q4).

Table 10: FY 19 and FY 20 HB 305 fully phased-in local, state and total resources by property wealth quintile (FY 18 values)

Wealth Quintile	(1) FY 19 total resources per pupil	(2) FY 20 HB 305 fully phased-in total resources per pupil	(3) FY 19 to FY 20 per-pupil increase in total resources	(4) FY 19 total resources per equiv. pupil	(5) FY 20 HB 305 fully phased-in total resources per equiv. pupil	(6) FY 19 to FY 20 per-equiv.-pupil increase in total resources
Q1 (Poorest)	**$12,242**	$13,295	$1,053	$8,975	**$9,747**	$772
Q2	$11,139	$12,466	$1,327	$8,743	$9,784	$1,041
Q3	$10,426	$11,325	$899	$8,650	$9,395	$746
Q4	$10,897	$11,964	$1,067	$9,159	$10,055	$897
Q5 (Wealthiest)	**$12,588**	$13,482	$894	**$10,558**	**$11,307**	$750
State Total	**$11,486**	**$12,541**	**$1,055**	**$9,165**	**$10,007**	**$842**

Tables 9 & 10 also show the same analysis for HB 305 if fully funded in FY20. Column 2 of Table 9 shows that even after the implementation of HB 305 on a fully phased-in basis wealthy suburban school districts ($12,807 per pupil) would still have higher total resources per pupil than the rural and small town school districts.

Furthermore, column 5 of Tables 9 and 10 shows that despite funding increases for all typology and property wealth quintiles, wealthy suburban ($10,879) and quintile 5 high property wealth ($11,307) school districts have the highest state and local resources per equivalent pupil even after the HB 305 funding formula is fully implemented.

These findings can be seen more clearly in Tables 11 and 12 which use the data in Tables 9 and 10 to provide a comparison of the total resources per pupil and per equivalent pupil in each typology group compared to the wealthy suburban typology group. The red numbers indicate the typology groups where total resources per pupil (on average) are lower than in the wealthy suburban group, while the black numbers show the typologies that have greater total resources per pupil (on average) than do the wealthy suburban school districts.

Column 1 of Table 11 shows that major urban school districts in Ohio had average total resources per pupil in FY 19 that were $2,454 per pupil higher than the average total resources per pupil in wealthy suburban school districts. Urban districts had slightly higher ($135 per pupil) total resources per pupil than did the wealthy suburban districts, while the rural and small town districts had lower total resources per pupil than did the wealthy suburban districts. Column

2 shows that when HB 305 is fully phased in, this pattern would remain fairly similar, with the urban and major urban districts farther ahead of the wealthy suburban districts than in FY 19 and the gap narrowed for the rural and poor small town school districts.

However, Columns 3 and 4 use the equivalent pupil method for taking into account the varied cost of educating pupils across the different types of school districts in Ohio and show a different story. Columns 3 and 4 of Table 11 show that wealthy suburban districts have higher total resources per pupil than do the other types of school districts both in FY 19 and if HB 305 were fully funded in FY 20. While HB 305 would narrow the total resources per equivalent pupil gap for all but the small town school districts, the gap would clearly still persist.

Table 11: FY 19 & FY 20 HB 305 fully phased-in local, state and total resources by typology group versus wealthy suburban typology

Typology group	(1) FY 19 total resources per pupil	(2) FY 20 HB 305 fully phased-in total resources per pupil		(3) FY 19 total resources per equiv. pupil	(4) FY 20 HB 305 fully phased-in total resources per equiv. pupil
Poor Rural versus Wealthy	($749)	($497)		($1,134)	($971)
Rural versus Wealthy	($645)	($604)		($754)	($736)
Small Town versus Wealthy	($1,938)	($1,974)		($1,610)	($1,637)
Poor Small Town versus Wealthy	($1,515)	($1,150)		($1,860)	($1,619)
Suburban versus Wealthy	($1,008)	($1,068)		($1,055)	($1,121)
Urban versus Wealthy	$135	$647		($1,165)	($880)
Major Urban versus Wealthy	$2,454	$2,663		($226)	($227)
State Total versus **Wealthy**	**($415)**	**($266)**		**($945)**	**($872)**

Similarly, Table 12 on the next page provides a comparison of the total resources per pupil and per equivalent pupil in quintiles 1-4 compared to the wealthiest quintile. Columns 3 and 4 of Table 12 clearly shows that total resources are highest in the wealthiest quintile of school districts on both a per-pupil and per-equivalent-pupil basis. Column 3 shows that in FY 19 the 122 lowest property wealth school districts in Ohio has total resources per equivalent pupil that average $1,583 per pupil lower than was the case for the 122 highest property wealth school districts in Ohio.

Column 4 shows that if HB 305 were fully phased in in FY 20 the gap between the poorest and wealthiest districts would only be narrowed by $23 per equivalent pupil to $1,560 per pupil.

Table 12: FY 19 & FY 20 HB 305 fully phased-in local, state and total resources by property wealth quintile versus wealthiest quintile

Wealth Quintile	(1) FY19 Total Resources per pupil	(2) FY20 HB 305 Fully Phased-In Total Resources per pupil		(3) FY19 Total Resources Per equiv. pupil	(4) FY20 HB 305 Fully Phased-In Total Resources per equiv. pupil
Q 1 versus Q 5	($346)	($187)		($1,583)	($1,560)
Q 2 versus Q 5	($1,449)	($1,016)		($1,815)	($1,523)
Q 3 versus Q 5	($2,162)	($2,157)		($1,908)	($1,912)
Q 4 versus Q 5	($1,691)	($1,518)		($1,399)	($1,252)

Summary of findings for improving the proposal

This report has provided a review and analysis of the main features of the HB 305 Cupp-Patterson work group funding formula. By developing a base cost methodology, eliminating the community school deduction, replacing the much-criticized State Share Index with an alternate state/local share mechanism, and increasing funding for economically disadvantaged students, the HB 305 funding proposal makes significant progress in addressing the issues that have plagued Ohio's school funding formula for many years. However, this analysis has identified several areas where the HB 305 funding proposal can be improved. Below is a brief list of the main findings for improving the proposal from this analysis:

1. The total resources analysis at the end of this report strongly suggests that the issues outlined above indicate that the current version of HB 305 does not go far enough in closing the equity gap between wealthier and less wealthy districts in Ohio. This is particularly evident when the higher cost of English learner, special education, and low-income students is taken into account by using a weighted or "equivalent" pupil measure of total resources. This gap is evident in urban, rural and small town school districts and is most pronounced in the small town and rural districts.
2. The pattern of inflation adjustments for the base cost calculation specified in HB 305 has several inconsistencies and incongruities. Ideally, the base cost computation should always rely on the most currently available data; an inflation adjustment should be applied in each year that a full re-computation is not conducted; and a full re-computation of the base cost should be done at a prescribed interval (roughly every four to five years).
3. The movement from a fixed local capacity percentage of 2.25% to a variable capacity percentage ranging from 2.0% to 2.5% is a significant improvement from the initial March version of the Cupp-Patterson funding formula. However, the current method of computing the local capacity percentages needs to be further modified. Currently 184 districts reflecting a very wide range of incomes have the same 2.5% local capacity percentage. This is decidedly inequitable and needs to be corrected. Similarly, 135 lower income districts all have the same 2.0% local capacity percentage. Additionally, an expansion of the current range of 2.0% to 2.5% should also be considered.

4. The supplemental targeted assistance component added to the revised version of HB 305 improves funding in the short term for urban school districts. However, many of these districts end up on the guarantee when HB 305 is fully phased in, meaning that they will not receive increases in funding after the phase-in period is completed. The primary reason for this problem is the re-computation of targeted assistance using enrollment rather than formula ADM. A long-term solution involving a new method of computing targeted assistance will be necessary to ensure that urban districts are not left behind once HB 305 is fully phased in.
5. Additionally, 55 districts in FY 20 and 41 districts in FY 21 receive less net funding under HB 305 than they did in FY 19. These districts did not qualify for Supplemental Targeted Assistance.
6. A second problem relating to the targeted assistance computation involves districts which have a net increase in students as a result of open enrollment. Under HB 305 these districts receive an increase in targeted assistance because they appear less wealthy to the formula because their enrollments are greater than their current formula ADM. Basing a district's wealth on students who live outside the school district is illogical. For purposes of targeted assistance, the impact of open enrollment should not be considered in the student count.
7. HB 305 properly recognizes that cost studies relating to English learners, students with disabilities, and economically disadvantaged students need to be undertaken in order to properly fund these students. Unfortunately, the FY 20-21 budget bill only authorized the economic disadvantaged student cost study and did not provide funding for this research. The state needs to be encouraged to find a way to fund and complete these studies in the FY 20-21 biennium. Furthermore, because of the new investment required to fund a new school-funding formula, the recommendations from these studies should be implemented at the onset of the new plan to ensure that adequate funding will be available for these components.

Appendix A

Overview of School Funding in Ohio

Education Tax Policy Institute

September 10, 2018

This paper provides an overview of the primary issues relating to K-12 school funding in Ohio, as well as a summary of changes to Ohio's school funding formula over the past two decades as they relate to these issues.

Background: Ohio's History of State "Equalization" Aid

Ohio's history of providing state support to equalize education opportunity for all children dates back to at least 1906. The passage below from the June 13, 1979 *Cincinnati vs. Walter* Supreme Court ruling shows that local property wealth disparities led the state to create a state aid program to assist "weak" school districts in 1906.

> *During the remainder of the Nineteenth Century, local property taxes continued to be the sole means of support for local public schools. However, when shifts in population due to the growth of commercial and industrial centers began to create disparities in local resources, Ohio undertook a program in 1906 calling for a large measure of state financial participation. This program was commonly referred to as "state aid for weak school districts."*
>
> *The goal of this program was to provide some minimum support to the poorer school districts. Thus, early as 1906, the Ohio General Assembly established for school funding purposes a financial partnership between state government and local school districts.*
>
> *The history of educational funding in Ohio, therefore, has been an accommodation between two competing interests -- the interest in local control of educational programs and the means to fund them and the interest of the state in insuring that all children receive an adequate education.*

In addition, according to the March 20, 1923 *Miller vs. Korns* decision, Ohio had in place in 1921 a 0.15 mill statewide property tax which provided for an "educational equalization fund" as well as a 2.65 mill property tax the proceeds of which were allocated to school districts based on groupings of counties. The constitutionality of these tax levies was upheld on the basis that they did not violate the "uniform rule" for property taxation and that these taxes "afforded the advantages of a free education to all of the youth of the state".

Currently, Ohio employs a Foundation Aid approach to providing state support to local school districts. Again according to the *Walter* decision, this approach dates back to 1935.

> *In 1935, the General Assembly enacted the first Foundation Program providing substantial financial aid to school districts. This program consisted of a flat distribution to each school district, based on average daily attendance, and "additional aid" for poorer school districts. The "additional aid" helped equalize the funds available for each school student in all districts across Ohio.*

The mechanics of the Foundation Aid program have changed periodically since 1935 and the constitutionality of the Equal Yield approach in place when the *Walter* case was heard was upheld on the basis that while significant inequities persisted across school districts, the funding system was "rationally based".

However, on March 24, 1997, the initial *DeRolph vs. State of Ohio* Supreme Court ruling (known commonly as "*DeRolph I*") deemed the state's local property tax and Foundation Formula-based funding system to be unconstitutional. Many issues were identified in this ruling, but two of the most enduring have been the Court's judgment that the system was "overly reliant" on local property taxes, and that the Foundation formula was not based upon an objective measure of the cost of an adequate education.

After two additional rulings based upon the State's response to the *DeRolph I*, along with an unsuccessful attempt at mediation, on December 11, 2003 the *DeRolph IV* ruling was issued which affirmed that Ohio's school funding system was unconstitutional but also declared the case to be over. Since that time, Ohio has continued to modify its formula for funding schools and this document provides a summary of the major changes and issues that have arisen in the past 25-30 years.

I. Overview of Issues Facing Ohio's School Funding System

For the past thirty years the three main problems in Ohio school funding have been the equity, adequacy, and reliability of the funding system.

A. Equity

Problems of equity in school funding derive predominately from the utilization of property taxes (and since 1989, income taxes) at the local level. Property values tend to be stable, which make property taxes a desirable source of revenue at the local level. However, local property values vary widely from community to community, often more due to the presence of business and commercial property than due to differences in residential home values. Equity issues arise because lower wealth school districts need to levy higher tax rates in order to raise a given amount of revenue than do wealthier districts, and also because districts with lower income residents often find it more difficult to gain support for local tax levies.

Equity issues also arise because school districts with certain characteristics and circumstances face higher costs than do other districts. As a result some districts need to spend more money than others in order to meet the needs of their students. The two main types of cost differentials are:

1) ***Differences in student needs that require additional programs and services*** (i.e. special education, vocational education, high concentrations of economically disadvantaged pupils, gifted and talented education)
2) ***Differences in the cost of educational inputs*** (i.e. student transportation, regional cost of living, remoteness, wage differences due to pupil characteristics)

In general, it is widely agreed upon by school funding analysts nationally that it is the state's responsibility to devise a system of funding which equitably allocates the state and local share of education costs in each district.

Over the past 25 years, changes to Ohio's school funding system have improved the ability of all school districts to provide a minimum level of educational opportunity on an equal basis. These changes include increases in the base per pupil amount and the addition of new funding components specifically directed towards districts with low local revenue capacity (these components are currently known as "Targeted Assistance" and "Capacity Aid"). However, currently the state is not employing any method of computing the cost of an adequate education, and the per pupil Foundation amount has failed to keep pace with inflation since FY 2009. In addition, despite the presence of Targeted Assistance and Capacity Aid, disparities continue to exist in the ability of lower wealth school districts to provide enhanced opportunities or equal opportunities to high need student populations.

B. Adequacy

School funding adequacy relates to the extent to which total (state and local) funding is sufficient to meet the educational needs of all students. In Ohio, as in other states, it is generally agreed that it is the state's responsibility to assure that school funding adequacy is achieved. Adequacy can be thought of as having two components;

1) ***Adequacy of the "base cost", also known as the "foundation level".*** This figure, which should represent the cost of educating the typical pupil in the most favorable circumstances, is the starting point for Ohio's school funding formula. If this number is too low, then even if the rest of the funding formula is considered to be correct, the overall system will still be inadequately funded. Ohio's foundation level was $5,732 per pupil in FY09, was increased to $5,745 in FY14, and is currently $6,020 in FY19. Note that there was no per pupil foundation level from FY10 through FY13 because the Evidenced Based Model and Bridge formulas did not use a foundation level approach to funding.

2) ***Adequacy of supplemental education costs.*** If the base cost figure is to represent the cost of educating a typical pupil in favorable circumstances, then supplemental funding for atypical pupils with additional educational needs is also necessary in order for the overall funding system to be considered adequate. Therefore, adequate funding for programs relating to special education, vocational education, economically disadvantaged students, English language learners, and gifted and talented students is required if Ohio's funding system is to be considered fully adequate. In addition, it is also appropriate for the state to provide funding that reflects variations in the cost of education inputs such as transportation and regional wage rates mentioned above.

Prior to FY99, Ohio did not employ any methodology for determining how much the base coast should be in order to provide a "thorough and efficient" education for Ohio's K-12 students as required by Article Vi, Section 2 of Ohio's Constitution. In the

aftermath of the 1997 *DeRoloh I* decision, the state adopted a "successful schools" methodology for computing an adequate base cost.

In 2005 Ohio added a component to its funding formula known as the "building blocks". The building blocks provided additional funding for professional development, data-based decision making, professional development for data-based decision making, and large-group intervention services. The first three building blocks could be considered to be part of the base cost, and were funded at $49.43 per pupil in FY08 and $50.90 per pupil in FY09. Intervention services funding should be considered as a supplemental education cost and was funded at an hourly rate of $21.01 in FY08 and $21.64 in FY09.

In 2009 Ohio implemented the Evidenced Based Model (EBM) for school funding. The EBM was a complex input-based model driven by student enrollment, "organizational units" reflecting different grade levels, and staffing ratios. The EBM did not rely upon a per-pupil base cost figure and was in place during FY10 and FY11.

As the preceding two paragraphs suggest, despite the fact that no methodology for determining adequacy is currently being employed, over time Ohio has developed more sophisticated methods to quantify both basic and supplemental costs in order to define "adequacy" in dollar terms. While these formulas serve a useful purpose, their capacity to define "adequacy" always will provide only an approximate solution to funding needs. A role remains for the exercise of judgment at both the State and local level to define the details of an adequate education program. This judgmental role implies the continuing need for some discretionary funds outside of the "adequacy" formulas. The need for these discretionary funds also challenges the State to equalize funding resources beyond the capacity to fund education programs at minimal levels.

3) Funding Beyond Adequacy

In order to achieve the goal of equalizing funding beyond a "bare bones' level of adequacy, a number of states have included equalized "Tier 2" funding components in their formulas. Tier 2 funding typically will provide additional state funding when districts adopt additional local taxes. In FY99 Ohio implemented a Tier 2 funding component known as Power Equalizing Aid" which applied matching aid to districts with property tax millage between 23 and 25 mills. However, because Ohio HB 920 (see below) results in the continual rollback of effective tax rates in most of the state's school districts, a Tier 2-type approach like that used in other states is tremendously difficult to implement in Ohio.

As a result, "Parity Aid" was introduced in FY02 as an alternative method of providing funding for districts beyond minimal levels of adequacy. Parity Aid worked by providing additional state funding for districts below a state-determined "Per Pupil Wealth Threshold" (set at the 80th percentile) that is based upon a combination of district valuation and federal adjusted gross income. Districts received Parity Aid funding based on the application of a state determined millage amount (set at 6 mills) to the difference between the state wealth threshold and the district's actual per pupil wealth. The EBM

did not include Parity Aid as a funding component, although the Education Challenge Factor served to provide additional funding on top of the other EBM components.

When the current finding formula was established in FY14, the Parity Aid concept became known as "Targeted Assistance". Targeted Assistance also includes a second component to provide additional funds for districts wit high proportions of agricultural property, and in FY16 a second concept known as "Capacity Aid" was added to provide additional funds to small low-wealth school districts whose ability to generate revenue from new levies is highly constrained. These components together provided $1.084 billion in additional funding to Ohio school districts in FY18.

C. Reliability

Even if the state is perfectly able to determine the adequate base cost and supplemental education costs and devise an equitable system of sharing this cost with each local school district, school funding in Ohio will not be "fixed" until each school district is assured of reliability in its revenue stream from one year to the next. HB 920 is the fundamental reason why school districts do not currently enjoy such reliability in local revenue.

HB 920 was enacted in 1976 in order to insulate property tax payers from excessive inflationary increases in their tax bills. This protection occurs through the application of "tax reduction factors" which reduce the voted millage rates for schools and other local services in Ohio in response to inflationary increases in property value which typically occur when real property (land & buildings) is reappraised by county auditors (property reappraisals occur every 6 years with a statistical "update" occurring after 3 years). HB 920 millage rollbacks are computed separately for residential & agricultural real property (known as Class I" property) and for business, commercial and industrial real property (known as "Class II" property). School millage rates cannot be reduced below 20 mills, a feature which is commonly known as the "20 mill floor".

HB 920 does not apply in the following circumstances:

i) HB 920 millage rollbacks are not applied to increases in property valuation deriving from new construction

ii) HB 920 millage rollbacks are not applied to "inside millage" levies. These are "unvoted" levies allowed by the Ohio Constitution in an amount up to 10 mills, 4 to 5 mills of which are typically allocated to schools

iii) HB 920 millage rollbacks are not applied to business tangible personal property (TPP) and public utility tangible personal property (PUTPP).

iv) House Bill 920 also does not apply to local school district income taxes

While HB 920 provides a measure of protection for property owners from property tax increases, it requires schools (and other local governments) to frequently place levies on the ballot merely to keep up with inflationary increases in the costs of delivering services.

This is because as a result of HB 920 school districts in Ohio only receive growth in local property tax revenues when new construction occurs, when tangible personal property increases in value, from property tax revenues received from the 4-5 mills of inside millage when Class 1 or Class 2 property increases in value due to reappraisal, or from the approval of additional voted levies.

The reliance on local school levies has only increased in the past 15-20 years as a result of legislation which has eliminated local taxation of general business (HB 66 in 2005) and other legislation (most notably SB 3 in 1999) which has reduced assessment percentages on much of the remaining gas and electric utility tangible property by over 2/3 since 1999, thereby reducing its taxable value of PUTPP by the same degree.

Additional pressures have been placed on school revenues as state TPP replacement payments to school districts (enacted as part of HB 66 and SB 3) have been reduced by over 80% (over $900 million) since reductions began in the FY12-FY13 biennial budget. Total TPP replacement payments for Ohio's 612 school districts have been reduced from $1,129 million in FY11 to $202 million in FY18. SB 208, enacted in October 2015, has created permanent law prescribing that all school districts will see their existing TPP replacement payments for operating levies reduced by an amount equal to $5/8^{th}$ of a mill per year until for as many years are needed to zero out the payments in each district. In FY18 roughly 100 districts still receive TPP operating levy replacement payments. The reductions in TPP have not only reduced local revenues but they have also reduced the amount of money that is raised when levies are passed by reducing the local property tax base.

Finally, HB920 interacts with the State foundation formula in a way that creates a phenomenon known as "phantom revenue". Phantom revenue results when reappraisal of real property makes the school district appear to have more local property tax wealth than it really does (this is because even though the district's property tax base has increased due to reappraisal the HB 920 millage reductions minimize the increase in property tax revenues actually received by the district). This results in a decrease in state aid relative to the district's true fiscal capacity. In essence, the school district's year-to-year revenue stream is compromised twice by HB 920. First, the district does not receive sufficient growth in local revenue as a result of inflation in home values. Second, the district receives a reduction in state aid because its apparent increase in valuation makes it seem wealthier in the eyes of the State aid formula. These two reasons largely explain why Ohio has more local school tax levy proposals on election ballots than any other state.

D. Implications

The preceding discussion identifies 4 issues that need to be addressed if Ohio's school funding system is going to be "fixed".

1) *Agreement must be reached regarding the proper method for determining the foundation level year after year.* If the foundation level is not adequate, then neither is the funding system. Such agreement must include recognition that

"adequacy" formulas require supplemental funds guided by local judgment due to the inherent limitations of any purely formulaic definition of education needs.

2) *Categorical programs and other supplemental cost differences must also be adequately funded.*

3) *The state must devise an equitable method of apportioning the state and local share of the cost of an adequately funded public school system across Ohio's diverse set of local school districts.*

4) *School districts must be afforded a local revenue base that grows adequately in relation to inflation.*

II. Changes to Ohio's Funding Formula Over the Past 25 Years

A. Adequacy

1. Base Cost Calculation

Arguably the most significant change to Ohio's funding system over the past 25 years was the development of a series of methodologies to determine an adequate base cost figure. Prior to 1999, the annual foundation level was determined not on the basis of a model or calculation about what amount was adequate but rather as a result of the legislature's judgment about how much money they were willing to direct from the state GRF budget to K-12 education. Consequently, prior to the *DeRolph I* ruling the formula's base funding level was determined by political and budgetary judgments rather than according to an objective methodology for determining an adequate level of resources.

Beginning in FY99, however, the legislature adopted a detailed method to determine this figure. The methodology has changed a number of times since 1999, and considerable evidence (see below) exists to show that the foundation level has never truly been adequate, however the mere presence of a methodology represented significant progress over the politically driven approach that had been in place prior to 1999. The fact that there is a process, even if imperfect, allows for reasoned discussion of the assumptions and calculations that drive the annual computation of the foundation level. ***However, since the "Evidence-Based Model" was eliminated in 2011, Ohio has not used any methodology for determining whether the level of funding provided through the state aid formula is indeed adequate.***

Evolution of the Foundation Level Methodology

The discussion below details the evolution of the methodology for determining Ohio's base cost funding amount (a.k.a. the "foundation level") since 1997.

A. July 1997: Augenblick Outcomes-Based Model ($4,269 per pupil)

In the aftermath of the March 24, 1997 "*DeRolph I"* ruling, Governor Voinovich convened the *Ohio School Funding Task Force*. The Task Force in turn hired school funding consultant John Augenblick to develop an objective methodology for determining the foundation level. Building on the prior work of the *Panel of Experts*

(convened in 1994-1995 by State Superintendent of Public Instruction Ted Sanders), Augenblick prepared an "outcomes-based" model for determining the base cost of an adequate education. Augenblick's model had the following characteristics:

- Utilize 1996 basic expenditure data for all of Ohio's K-12 districts, excepting the Lake Erie Islands and College Corner. The basic expenditure data removed capital spending and categorical program expenditures from each district's expenditure figures.
- Remove districts in the highest or lowest five percent of per pupil property wealth OR median income. These districts are removed on the presumption that their low or high wealth/income status will skew their expenditures. 107 districts out of 607 were removed according to this criteria.
- The remaining 500 school districts then needed to satisfy 17 of 18 outcomes criteria (16 based on proficiency test performance along with attendance and dropout rate standards). 122 districts met 17 of the 18 outcome standards.
- 20 of the 122 districts were removed from consideration on the basis of exhibiting unusual expenditure patterns relating to administration, building operations or pupil support services.
- The weighted average per pupil basic expenditure level of the 102 districts meeting all of the above criteria was $3,930 in FY96. This figure was then inflated by 2.8% per year to reach a figure of $4,269 for FY99. It was recommended that the foundation level in subsequent years be increased by an annual 2.8% inflation adjustment.

B. 1998 (HB 650): Legislature Modifies Augenblick Model ($4,063 per pupil)

When implementing the methodology developed by Augenblick for the School Funding Task Force, the Ohio General Assembly decided to modify the criteria used by Augenblick to reach his base cost figure of $4269.

- The primary change made by the legislature was the decision to exclude the top and bottom 10% (rather than 5%) of school districts from the analysis. This change resulted in a figure of $4,063 per pupil in FY99.
- The legislature then decided not to increase funding immediately to the $4,063 figure, instead choosing to phase-in the new funding model. This resulted in foundation levels of $3,851 in FY99. $4,052 in FY00, and $4,294 in FY01 (at which point the phase-in to the legislature's chosen base cost amount was completed).

C. June 2001: HB 94 (Jacobson) Funding Model ($4,814 per pupil)

The period from 1999-2001 saw many different proposals for determining the base cost amount. Proposals were offered by the State Board of Education, the Ohio Department of Education at the direction of Superintendent Susan Zelman, and state Senator Jeff Jacobson in SB 2. Ultimately, the legislature adopted its own approach (influenced significantly by Senator Jacobson) in HB 94, the FY02-03 budget bill. The HB 94 model changed the computation criteria in the following ways:

- FY1999 was utilized as the base year, with expenditure and performance criteria updated from the FY 1996 data used by Augenblick.
- 27 outcomes criteria were utilized, with districts required to meet 20 standards in order to be included in the model.
- 7 districts that narrowly missed satisfying 20 of 27 standards were included in the model.
- Districts were excluded if they were in the top or bottom 5% of all districts on both per pupil property wealth *and* median income. This left 127 districts in the model.
- An adjustment known as the "echo effect" was made to some of the 127 districts whose expenditures were averaged in order to compute a base cost figure. Rather than using the actual expenditures in these districts, expenditures were limited to a 2.8% increase per year.
- The Cost-of-Doing-Business (CDB) factor was lowered from its planned level of 15.2% to its FY95 level of 7.5%.
- The HB 94 school funding model resulted in an FY99 base cost figure of $4,420. This figure was inflated by 2.8% for 3 years resulting in an FY02 base cost of $4,802. An additional $12 per pupil was added to reflect the cost of additional graduation requirements mandated by SB 2. As a result, the foundation level in FY02 was $4,814 per pupil (with a 2.8% inflation adjustment bringing it to $4,949 in FY03). Had the HB94 model used a CBD factor of 15.2%, the FY02 foundation level would have been $4,459 per pupil. This decision to utilize a lower CDB factor and higher foundation level adversely affected school districts in the highest cost urban counties.

D. *June 2001: Inclusion of the Echo Effect and 7 "not quite successful districts" lower the FY02 foundation level from $5035 to $4814.*

- The "Echo Effect" adjustment required that the determination of the base cost amount from the experience of "successful" school districts would use the lesser of the school district's actual costs and an inflation-adjusted cost from an earlier "successful" performance by that district. The FY02 Foundation level of $4814 per pupil would have equaled $4996 per pupil without the application of the "Echo Effect Adjustment." Therefore, the Echo Effect Adjustment lopped $182 per pupil from the Foundation amount. Subsequent analysis of school district expenditures by William Driscoll and Howard Fleeter found Senator Jacobson's assertions regarding the validity of the echo effect to be unfounded.
- The State included seven almost "successful" districts in the computation of the FY02 per pupil amount. The removal of these seven school districts would have increased the formula amount by an additional $39 per pupil to $5,035. It is hard not to conclude that the only reason that the echo effect adjustment and 7 not quite successful districts were included in the

HB 94 funding model was to lower the foundation level by $221 per pupil and thereby save the state money.

E. June 2003: HB 95 (FY04-05 Budget Bill)

- The only significant change to the determination of the base cost amount in HB 95 was the lowering of the annual inflation increase from 2.8% to 2.2%.
- Had the 2.8% inflation adjustment that had been in place since 1999 been used, the foundation level would have been $5,087 in FY04 (instead of $5,058) and $5,230 in FY05 (instead of $5,169).

F. June 2005: HB 66 (Building Blocks)

In FY06, the legislature, adopting ideas first developed by Governor Taft's 2004-05 *Blue Ribbon Task Force on Financing Student Success*, modified the HB 94 outcomes based approach and turned it into an inputs based "building blocks" approach. The rationale behind this change was that it is easier (and more stable) to make year-to-year adjustments in input criteria and related costs than it is to adjust an outcomes-based model. The transition was made in such a way that the building block approach in FY06 resulted in a foundation level of $5,283, a 2.2% increase from FY05. The FY07 figure of $5,403 was a 2.3% increase from FY06.

- The building blocks approach computes a per pupil amount for different components of a basic education, including $2,838 for base classroom teachers, $1,905 per pupil in non-teacher personnel support, and $822 per pupil in non-personnel support. The sum of these three figures comprised the FY08 foundation level of $5,565.
- In addition, a relatively small supplement accounts for additional costs in the form of large group intervention, professional development, data-based decision-making, and professional development for data-based decision-making. Cumulatively, these supplements add to $49.42 per pupil in FY08.
- All dollar amounts shown above applied in FY08 and were increased by an estimated inflation percentage for FY09 of 3% for personnel costs and 2% for non-personnel costs.
- Building block computations resulted from a "policy decision" by the General Assembly by which the law fixes the average cost of a classroom teacher and the average class size at 20 pupils. The average cost of other personnel support and of non-personnel support was also fixed as a "policy decision."

G. June 2009:HB 1 Evidence-Based Model (EBM)

Governor Strickland's FY10-FY11 biennial budget (HB1) introduced the "Evidence–Based Model" (EBM) for funding schools. The EBM was adapted for Ohio based on research done by education professors Allan Odden and Larry Picus. The EBM was

enacted in June 2009 after the EBM provisions outlined in HB1 were modified by the Ohio House of Representatives. Rather than revolving around a per pupil base cost figure, the EBM was an input-based model driven by student enrollment, "organizational units" reflecting different grade levels, and staffing ratios. The most noteworthy aspects of the EBM were as follows:

- The EBM provided funding based upon the following educational service functions: Instruction, Additional Student Support Services, Administration, Administrative Support, Operations and Maintenance, Gifted Education and Enrichment Services, Technology and Related Services.
- The fundamental construct in the EBM was the "organizational unit". Organizational units allocate resources by defining an optimum number of students for delivering elementary, middle school and high school programs. Each district received one educational unit for each 418 students in grades K-5, 557 students in grades 6-8 and 733 students in grades 9-12. Districts were funded on the basis of both full and partial educational units.
- The instructional services component was the driving force of the EBM. This component used a base teacher salary of $49,914 (the median school district average salary) and a 14% increase for benefits for a final figure of $56,902. This figure was widely considered to be too low because the salary figure was somewhat out of date and the benefits adjustment was felt to be far too low a percentage (currently, mandatory STRS, Medicare and Workers Compensation contributions amount to roughly 16% of salaries paid and this does not include the cost of providing health care benefits which is typically another 20% or so).
- The EBM did not include a number of components present in prior Ohio school funding formulas. These missing components included, gap aid, the excess cost supplement (for categoricals), and parity aid. In place of these components, the EBM utilized the Education Challenge factor (ECF). The ECF was meant to account for community socioeconomic factors that impact educational quality. The ECF was based upon each district's poverty rate, per pupil wealth (both property and income), and the college attainment rate of the district's adult populace.
- The local share was still determined by a "chargeoff" against district property valuation and the chargeoff millage was lowered from 23 mills to 22 mills.
- The timing for introducing the EBM probably could not have been worse. Because of the national recession in 2008 and 2009, state GRF revenues fell by $2.3 billion from FY08 to FY09 and by an additional $860 million in FY10. Consequently $933 million in Federal stimulus funding was necessary to help fund the Foundation formula in the FY10-11 biennium, and funding increases were capped at 0.75% each year. As a result, it was estimated that it would take roughly 8 years for the EBM to be fully funded.
- Funding for Career technical education was "outside" the EBM. This was because additional research was necessary to determine how to include Career

tech in the EBM. Funding for Career Technical education was increased by 0.75% in both FY10 and FY11.

- HB 1 also provided for the creation for the School Funding Advisory Commission (SFAC). The purpose of the 28 member SFAC (chaired by State Superintendent Deborah Delisle) was to examine the various components of the EBM and make recommendations regarding any necessary changes or additions to the funding model. The SFAC's initial meeting was January 7, 2010 and it met throughout the 2010 year. The commission's Final Report was released by the SFAC on December 1, 2010.

H. June 2011:HB 153 (Bridge Formula)

The EBM was replaced by the "Bridge Formula" in FY12 and FY13 after Governor Kasich was elected. Facing a significant budget hole in the aftermath of the recession and considering the EBM to be too expensive, Governor Kasich's FY12-13 budget replaced the EBM with the "Bridge Formula". The Bridge Formula was not a really a funding formula in the conventional sense, rather it was a method for computing funding amounts for each district based upon the funding they received in FY11.

Because the Federal stimulus funding was discontinued after FY11, Foundation formula funding through the Bridge formula in FY12 ($6.266 billion) and FY13 ($6.326 billion) was less than in FY11 ($6.515 billion). The decreases in funding varied across districts, with lower wealth school districts receiving smaller reductions than higher wealth districts.

I. June 2013:HB 59 (Back to the Foundation Formula Approach)

Just as Governor Strickland did 4 years earlier, Governor Kasich proposed a new school funding system as part of his second biennial budget. The formula proposed by the Governor included as its primary component an "Equal Yield" approach for determining foundation aid (termed "Core Opportunity Aid"). The Equal Yield methodology was based on equalizing school district fiscal capacity up to a per pupil property valuation figure of $250,000 at a millage rate of 20 mills. $250,000 per pupil was selected because it is the 96th percentile of property valuation in the state. Administration representatives were plainly clear that the focus of the Equal Yield approach was on equity rather than adequacy in school funding, and candidly admitted that this methodology did not attempt to cost out (or even define) an adequate education.

Analysis of the Governor's proposed funding formula quickly revealed several problems, however. First, it became clear that the Equal Yield formula was mathematically equivalent to a conventional funding formula with a Foundation Level of $5,000 per pupil and a local chargeoff of 20 mills. Ohio's Legislative Service Commission (LSC) calculated that the Equal Yield formula would provide ***$545.5 million less*** in Core Opportunity Aid than would have been provided if the FY09 foundation level of $5,732 per pupil were used instead. In addition, the Governor's formula would have placed 398 of Ohio's 612 school districts on the

transitional aid guarantee, at a cost of $464.3 million in FY14. Both of these findings suggested that the Equal Yield approach was a rather significant step backward in school funding for Ohio. Furthermore, when it became clear that the 96th percentile of property wealth in FY15 actually decreased to $246,000 per pupil (even though the formula retained $250,000 per pupil as the benchmark), concerns were raised about the stability of the Equal Yield approach over time.

Because of the multitude of issues surrounding the Equal Yield formula, the General Assembly modified the proposed Core Opportunity Aid computation and returned to the familiar Foundation Formula approach that had been in place from the early 1980s through 2009. As a result the FY14-FY15 funding formula (still in use today) bears a striking resemblance to the formula used in FY09 and earlier. The 2 most significant differences between the current foundation formula and the one in use in FY09 and earlier are:

1) The state and local shares of funding in each district are determined by using a "State Share Index" rather than the previous millage chargeoff approach. This issue is discussed below.

2) **The annual per pupil Core Opportunity Aid amounts were determined based on political and budgetary considerations rather than as the result of an objective methodology, just as had been in the case prior to the *DeRolph I* ruling**

Table 1 provides a summary of the base per pupil foundation amount and percentage change from year to over the 30 year period from FY1990 through FY2019.

Table 1: Ohio Foundation Level and Percent Change, FY1990–FY2019

Year	Foundation Level	% Increase		Year	Foundation Level	% Increase
FY 1990	$2,530	7.2%		FY 2005	$5,169	2.2%
FY 1991	$2,636	4.2%		FY 2006	$5,283	2.2%
FY 1992	$2,710	2.8%		FY 2007	$5,403	2.3%
FY 1993	$2,817	3.9%		FY 2008	$5,565	3.0%
FY 1994	$2,871	1.9%		FY 2009	$5,732	3.0%
FY 1995	$3,035	5.7%		FY 2010	EBM	--
FY 1996	$3,315	9.2%		FY 2011	EBM	--
FY 1997	$3,500	5.6%		FY 2012	Bridge	--
FY 1998	$3,663	4.7%		FY 2013	Bridge	--
FY 1999	$3,851	5.1%		FY 2014	$5,745	0.2%
FY 2000	$4,052	5.2%		FY 2015	$5,800	1.0%
FY 2001	$4,294	6.0%		FY 2016	$5,900	1.7%
FY 2002	$4,814	12.1%		FY 2017	$6,000	1.7%
FY 2003	$4,949	2.8%		FY 2018	$6,010	0.2%
FY 2004	$5,058	2.2%		FY 2019	$6,020	0.2%

Table 1 shows that when the legislature returned to the foundation-type formula in FY14 the base per pupil of $5,745 was only $13 higher than the $5,732 figure used in the FY09 formula. Subsequent legislative increases in the per pupil core opportunity aid amount from FY15-FY19 have resulted in the current figure of $6,020 per pupil.

Using the Bureau of Labor Statistics' inflation calculator, a foundation level of $5,732 in the FY09 school year would have been equivalent to a foundation level of ***$6,743 per pupil in FY18***. This calculation shows that the FY18 core opportunity aid amount of $6,010 per pupil set by the legislature is $643 lower than the per pupil amount would have been had the FY09 amount (the last amount based on an objective methodology) had simply been increased to keep pace with inflation.

2. Updating the Base Cost Figure from Year to Year

Assuming that a methodology to determine the base cost per pupil is adopted, it is also necessary to consider how to adjust the annual level of state funding from one year to the next in a way that maintains the legitimacy of the system. Experiences in other states have shown that is more typical to develop a base cost methodology, implement it in year 1, and then adjust this figure for inflation for several years before undergoing a full recomputation of the methodology in 5 years or so, rather than fully recomputing the formula each year.

The data in Table 1 illustrates how such a process unfolds. One way to interpret the data in Table 3 is to consider the time period prior to and including FY02 as the "ramp-up" phase of school funding in Ohio, and the period from FY03 on forward as the "maintenance" phase of school funding. The years from FY90 to FY98 reflect the state's attempts to improve funding sufficiently to make the claims of the plaintiffs in the *DeRolph* lawsuit a moot point (the court ruling over-turning the funding system proves this strategy did not work). The years from FY99 through FY01 reflect the implementation of the adoption of the base cost methodology that the legislature adopted from the Augenblick model in the aftermath of the *DeRolph* ruling. The legislatively modified Augneblick model called for a foundation level of $4,063 in FY99, a 10.9% increase from the $3,663 level of FY98. 2.8% inflationary increases in FY00 and FY01 would have then resulted in a foundation level of $4,294 in FY01. Instead, the legislature decided to smooth out the increase in funding with 5.1%, 5.2% and 6.0% increases over 3 years, still reaching $4,294 in FY01.

The large 12.1% increase from FY01 to FY02 is largely because of HB 94's simultaneous reduction in the CDB factor from 13.8% to 7.5% (this issue is discussed in more detail later in this paper). The period since 2002 reflects the judgment about how much of an annual increase in state funding is necessary to maintain the legitimacy of the system. In FY03 the Augenblick inflation adjustment of 2.8% was used, with the legislature then lowering the inflation percentage to 2.2% in FY04, FY05 and FY06.

Thus, even if there is a lack of consensus regarding whether the cost methodology utilized in the funding system fully represents the cost of an adequate education, it is still imperative that policymakers reach agreement about the annual increment in funding

necessary in order to maintain both the perception and the reality that the system is fully funded. This is particularly pertinent considering that the current funding formula does not employ any methodology for determining the cost of an adequate education and the foundation level figures employed since FY14 have not even kept pace with inflation since FY09.

3. The Transitional Aid Guarantee and Gain Cap

One critically important change to Ohio school funding in recent years has been the imposition of the "gain cap". Prior to the introduction of the EBM in FY09, previous school funding formulas did not include any limitation on how much funding any district could receive in any given year. While there were several instances where elements of the funding formula had been phased-in over time, this was always done in a way where all districts received whatever amount the formula computed them to receive. However, when the EBM was implemented (during the midst of the Great Recession when over $5 billion of anticipated state GRF tax revenues essentially evaporated into thin air), a cap was imposed that did not allow any district to receive more than a 0.75% increase in either FY10 or FY11. The Bridge formula in FY12 and FY13 also imposed limits on increases in funding but that was not a typical funding formula, again due to the lingering effects of the recession.

However, when the current funding formula was implemented in FY14 a 6.25% "gain cap" was imposed which prevented the total formula funding in FY14 from increasing by more than that amount compared to FY13 Bridge Formula funding levels. 340 districts were limited by the gain cap in FY14, and formula funding was reduced by a total of $917.4 million relative to what it would have been without a cap.

Table 2 provides a summary of the gain cap from FY10 through FY19.

Table 2: Gain Cap Limitations in Ohio's School Funding Formula, FY10–FY19

Year	Gain Cap Percentage	# of Districts Limited By Cap	Amount of Funding Owed to Cap Districts
FY 2010	0.75%	NA*	$766.5 Million
FY 2011	0.75%	NA*	$435.1 Million
FY12 & FY13	Bridge Formula – Funding Based on FY11 Levels		
FY 2014	6.25%	340	$917.4 Million
FY 2015	10.5%	237	$681.0 Million
FY 2016	7.5%	186	$614.6 Million
FY 2017	7.5%	150	$493.8 Million
FY 2018	3.0%-5.5%	199	$556.7 Million
FY19 Est.	3.0%-6.0%	*144*	*$435.7 Million*

Source: ODE PASS and SFPR Payment Data

* Estimated # of districts limited by the cap in FY10 & FY11 is not available from the PASS form

Table 2 shows that the cap was set at 10.5% in FY15 and lowered to 7.5% in FY16 and FY17. The cap was lowered again to 3.0% in FY18 and FY19, although districts with enrollment growth of greater than 3.0% are allowed to receive an increase in funding of up to 5.5% in FY18 and 6.0% in FY19.

Table 2 also shows that the amount of formula funding to districts as a result of the gain cap typically decreases over time. FY18 is an exception to this pattern as the cap rate was reduced from 7.5% to 3% for most districts (only 47 districts exhibited an enrollment increase of more than 3% thereby qualifying for the higher cap rate). Had the cap growth rate remained at the FY17 rate of 7.5% the amount of money owed under the cap would likely have gone down in FY18. LSC conference committee estimates from last year forecast that both the number of districts on the cap and the cap amount will fall in FY19.

The transitional aid guarantee is a second reason that the amount of money an Ohio school district receives in state aid can vary from the amount that the formula computes it to receive. Unlike the gain cap, however, the "guarantee" has been a feature of Ohio's school funding system since at least the early 1990s. Transitional aid exists because Ohio's school funding environment is dynamic rather than static. When student enrollment, property values, and/or the funding formula itself changes districts can experience increases or decreases in state aid. The transitional aid guarantee serves the purpose of stabilizing funding for school districts for whom changes in their circumstances or in the parameters of the funding formula would lead to a decrease in state aid. Table 3 provides a summary of the number of districts on the guarantee, as well as the total amount of supplemental funding provided by the guarantee, from FY 1999 through FY 2018.

Table 3: Transitional Aid Guarantee in Ohio's School Funding Formula FY1999-FY2018

Year	# of Districts on Guarantee	Additional Funding Provided by Guarantee		Year	# of Districts on Guarantee	Additional Funding Provided by Guarantee
FY 1999	NA*	$94.7 Million		FY 2009	NA*	$392.5 Million
FY 2000	NA*	$76.9 Million		FY 2010	227**	$890.9 Million
FY 2001	NA*	$56.0 Million		FY 2011	195**	$647.3 Million
FY 2002	NA*	$41.0 Million		FY 2012	Bridge Formula – Funding Based on FY11 Levels	
FY 2003	NA*	$40.1 Million		FY 2013		
FY 2004	NA*	$47.8 Million		FY 2014	198	$184.1 Million
FY 2005	NA*	$58.0 Million		FY 2015	189	$158.0 Million
FY 2006	NA*	$110.6 Million		FY 2016	173	$123.9 Million
FY 2007	NA*	$112.3 Million		FY 2017	130	$104.5 Million
FY 2008	NA*	$451.6 Million		FY 2018	328	$222.4 Million

Source: ODE SF3, PASS and SFPR Payment Data

* The # of districts on the guarantee in FY99 through FY09 is not available from ODE SF3 state total payment reports.

** Estimated # of districts on guarantee in FY10 & FY11 from LSC Conference Comm. analysis.

Table 3 shows that over the 20 year period from 1999 through 2018 the guarantee has varied from a low of $40.1 million in FY03 to a high of $890.9 million in FY10 (the first year of the OEBM). In terms of the number of districts on the guarantee each year, in FY17 there were only 130 districts receiving transitional aid, however this figure spiked to 328 districts in FY18. The ODE FY19 July #1 School Finance Payment Report data indicates that 331 districts will be on the guarantee at a cost of $252.2 million. The primary reasons for this sharp increase in the number of districts on the guarantee in FY18 and FY19 were large increases in property values as a result of reappraisal, (primarily in rural districts) along with the minimal increase of $10 per pupil in the state foundation aid per pupil amount.

Note that the number of districts on the guarantee each year is only shown from FY10 through FY18. This is because the ODE district-by-district school funding spreadsheets are not available on the ODE website prior to FY12 (FY10 and FY11 data is from an LSC estimate). A data request will be made to ODE to provide the number of districts on the guarantee from FY09 and earlier.

4. Funding for Students with Disabilities

Dating back to at least the mid-1980s Ohio provided funding students with disabilities (commonly referred to as "special education" funding) through a "unit" system. The unit system worked by defining and funding classroom units for students with different types of disabilities. The number of units were determined by the number of students in each school district with different disabilities in accordance with prescribed student/staff ratios that varied by disability type. The student/staff ratios and other necessary supports for students with disabilities were spelled out in the state special education standards (commonly referred to as the "Blue Book"). The state minimum teacher salary schedule was used as the basis for funding the units.

The special education unit funding system suffered from several deficiencies:

1) First, the state minimum teacher salary schedule (which had a starting point of roughly $17,500 in the 1990s) was widely regarded to be absurdly low thereby fundamentally undermining the adequacy of funding for special education.
2) Because funding for special education was based upon the minimum teacher salary schedule - which was not linked in any way to the per pupil foundation amount - funding for special education units would typically lag behind funding for students without disabilities from year to year. Special education advocates referred to this as the "parity" issue.
3) Unit funding for special education had the advantage of creating a clear stream of funds for students with disabilities as well as an easy mechanism for tracking whether these funds were actually spent as intended (if a district was funded for "x" number of units then there should also be "x" classrooms serving these children). However educational research began to show that students with disabilities would be better served by an educational experience where they were integrated to the greatest extent possible with "regular" students (a practice often called "mainstreaming") rather than being segregated in their own separate

classrooms. The general programmatic guideline is that students with disabilities should be served in the "least restrictive environment" possible, a practice that does not lend itself to a unit funding system.

In response to the issues raised immediately above, in 1998, the General Assembly replaced the unit funding system of funding special education with a system of 3 pupil weights. The system of pupil weights was subsequently expanded and modified in 2001 (effective with the FY02 school year) and the 6 weights were updated again effective in FY10. Under a weighted pupil system special education students are counted once in the district's ADM for foundation funding and then funded additionally in accordance to their weight. The primary advantage of the weighted pupil funding system is that by first counting the student in district ADM and then providing additional funding for the disability through the weight, funding for special education will increase in accordance with changes in the foundation level. This solves the "parity" problem described above.

Table 4 below shows the weights for each of the 6 categories of disability along with the phase-in percentage from FY99 through FY13. No weights were used in FY12 and FY13 under the Bridge Formula.

Table 4: Special Education Weights With Phase-in Percentage FY99-FY13

Fiscal Year(s)	Category 1	Category 2	Category 3	Category 4	Category 5	Category 6	Phase-in %
FY99-FY01	0.22	3.01	3.01*	NA	NA	NA	
FY02	0.2892	0.3691	1.7695	2.3646	3.1129	4.7342	**82.5%**
FY03	0.2892	0.3691	1.7695	2.3646	3.1129	4.7342	**87.5%**
FY04	0.2892	0.3691	1.7695	2.3646	3.1129	4.7342	**88.0%**
FY05-FY09	0.2892	0.3691	1.7695	2.3646	3.1129	4.7342	**90.0%**
FY10-FY11	0.2906	0.7374	1.7716	2.3643	3.2022	4.7205	**90.0%**
FY12-FY13	Bridge Formula – Special Ed Funding Based on FY11 $ Amount						

* In FY99-FY01 districts were also eligible for partial reimbursement of costs in excess of $25,000 for Category 3 students.

In FY14 the special education weights were converted to the equivalent per pupil amount that would be implied by multiplying the previous FY11 weights (reduced to 90% by the on-going phase-in percentage) by the FY14 core opportunity aid amount of $5,745 per pupil. The same process was used to reach the per pupil amounts in FY15 (multiplying by the $5,800 base cost per pupil). As a result, the per pupil amounts used in FY14 and FY15 produced the exact same amount of funding as if the weights had been used. However, use of per pupil amounts for special education funding rather than weights requires annual increases in the per pupil amounts equal to the percentage increase in the per pupil core opportunity aid amount in order for special funding to keep with funding for "regular" students.

In FY16 the special education per pupil amounts from FY15 were increased by 2% and by another 2% in FY17. Because the base cost per pupil only increased by roughly 1.7%

in each of those years (from $5,800 in FY15 to $5,900 in FY16 and to $6,000 in FY17), special education actually received a slightly larger increase in funding than would have been the case had the weights been retained. In FY18 and FY19 the opposite occurred as the special education per pupil amounts were kept at the FY17 levels (0% increase) while the base cost increased by la small amount (less than 0.2%). These figures illustrate that the "parity" issue raised back in the days of unit funding of special education is again apparent when per pupil amounts rather than weights are used for special education funding. Table 5 shows the special education per pupil amounts used in FY14-FY19.

Table 5: Special Education Per Pupil Amounts, FY14-FY19

Fiscal Year	Category 1	Category 2	Category 3	Category 4	Category 5	Category 6
FY14	$1,503	$3,813	$9,160	$12,225	$16,557	$24,407
FY15	$1,517	$3,849	$9,248	$12,342	$16,715	$24,641
FY16	$1,547	$3,926	$9,433	$12,589	$17,049	$25,134
FY17	$1,578	$4,005	$9,622	$12,841	$17,390	$25,637
FY18	$1,578	$4,005	$9,622	$12,841	$17,390	$25,637
FY19	$1,578	$4,005	$9,622	$12,841	$17,390	$25,637

While the conversion to per pupil amounts in FY14 has made the link between the special education weights and special education funding amounts less clear, it is still possible to create an "apples to apples' comparison of special education funding under the weighted system vs. the per pupil amount system. This is done by computing the "effective special education weight" in each year. During the years FY02-FY11 this is done by simply multiplying the weights shown in Table 4 above by the phase-in percentage used in each year. From FY14-FY19 this is done by dividing the special education per pupil amount by the core opportuntity aid per pupil amount used each year (shown in Table 1).

Table 6: "Effective" Special Education Weights After Phase-in Percent is Applied, FY99-FY19

Fiscal Year(s)	Category 1	Category 2	Category 3	Category 4	Category 5	Category 6
FY99-FY01	0.22	3.01	3.01	NA	NA	NA
FY02	0.2386	0.3045	1.4598	1.9508	2.5681	3.9057
FY03	0.2531	0.3230	1.5483	2.0690	2.7238	4.1424
FY04	0.2545	0.3248	1.5572	2.0808	2.7394	4.1661
FY05-FY09	0.2603	0.3322	1.5926	2.1281	2.8016	4.2608
FY10-FY11	0.2615	0.6637	1.5944	2.1279	2.8820	4.2485
FY12-FY13	Bridge Formula – Special Ed Funding Based on FY11 $ Amount					
FY14-FY15	0.2615	0.6637	1.5944	2.1279	2.8820	4.2485
FY16	0.2622	0.6654	1.5988	2.1327	2.8897	4.2600
FY17	0.2630	0.6675	1.6037	2.1402	2.8983	4.2728
FY18	0.2626	0.6664	1.6010	2.1366	2.8935	4.2657
FY19	0.2621	0.6653	1.5983	2.1331	2.8887	4.2586

Table 6 shows that effective special education funding has actually increased slightly during the years FY16-FY19 as compared to what it would have been had the weights not been replaced with per pupil amounts in FY14. This is because the 2.0% increase in the per pupil amounts in FY16 and FY17 was actually larger increase than the 1.7% increase in the core opportunity aid amounts in FY16 and FY17. However, Table 6 also shows that the effective special education weights currently in use remain well below the computed weights enacted in FY10 and FY11.

Thus, while the weighted pupil funding system is a clear improvement over the prior unit funding approach in terms of allowing students with disabilities to be educated in a less restrictive and more flexible manner, Table 6 makes it clear that after 16 years (FY02 - FY18) ***the special education weights (recently per pupil amounts) are still not fully funded in the state aid formula.***

While the phase-in percentage has increased from 82.5% to 90% over time, it remained at 90% from FY05 through FY15. And while the phase-in percentage has effectively ticked up slightly in the last 4 years under the per pupil mechanism (calculations show the weights have varied between 90.5% and 90.2% of the recommended amounts), special education costs are still not close to being 100% funded. Note that some Ohio legislators have asserted that because the federal government provides some funding for special education through the Individuals with Disabilities Education Act (IDEA) this means that it is not necessary for Ohio to fully fund it sown special education funding formula. ***However, a condition of Federal funding is that Federal aid must be used to supplement not supplant state and local funding for students with disabilities.*** The presumption that IDEA funding can be used to fill the gap between 90% funding of the weights and 100% funding appears to be in violation of this non-supplanting principle.

In addition, the last time that the weights were updated was in 2009 (for use in FY10). Furthermore, the update in 2009 was based upon a September 2006 study by the Ohio Coalition for Children with Disabilities (OCECD), which itself was based on data from 2005. Consequently, the special education per pupil funding amounts that were derived in FY14 and FY15 were based on information that was nearly 10 years old and 5 more years have passed since that time. ***As a result, it is difficult to argue that Ohio's special education funding system is fully funded so long as the weights are both out-of-date and they remain funded at roughly 90%.***

As a final note, special education funding has been exempted from the gain cap since FY14. This means that Ohio school districts technically receive all of the state funding for special education that the formula computes. This issue is important for demonstrating that Ohio is in compliance with federal "maintenance of effort" guidelines regarding special education funding and service delivery.

5. Funding for Economically Disadvantaged Students

Funding for school districts with high concentrations of poverty dates back to *Municipal Overburden Aid* in the late 1970s. Municipal overburden aid was intended to provide additional revenue to high poverty districts based on the presumption that the demand for

other social services relating to poverty would make it difficult for the school districts to raise necessary local revenue. Municipal overburden aid was provided as a lump sum grant to school districts with no provisions dictating how the funding should be spent.

Municipal overburden aid eventually transformed into *Disadvantaged Pupil Impact Aid (DPIA*). The purpose of DPIA was to provide additional funding to districts for the costs relating to poverty without prescribing how the money should be spent. To reflect the belief that educational costs would increase as the concentration of poverty went up, DPIA worked on a sliding scale. Districts with the lowest levels of poverty would receive no aid, while districts with modest poverty would receive aid on the order of $100 per pupil. Poverty was measured as the percent of the district's students whose families received Aid for Dependent Children (ADC)). As the percentage of ADC students increased, so would the amount received per pupil, with the highest poverty districts receiving over $1000 per ADC student.

At roughly the same time, a second program to provide funding for high poverty districts was created. The *Disadvantaged Pupil Program Fund (DPPF)* was a grant program that districts were required to apply for. The application process required a specific use (or uses) of the DPPF funding and districts were required to evaluate the program's effectiveness. Total funding for DPPF was much smaller than was funding for DPIA. The DPPF program was discontinued by the legislature after FY95.

In the mid-1990s federal welfare reform eliminated the ADC program. In Ohio the ADC program was replaced by Ohio Works First (OWF). As the primary goal of welfare reform was to move families off of poverty assistance, the number of students in Ohio whose families received OWF assistance was much lower than the number who received ADC. This necessitated a change in Ohio's DPIA formula in order to avoid a drastic decrease in funding. As a result, the sliding scale with increasing dollar amounts was replaced by a DPIA index formula that compared a districts percentage of poverty with the statewide average poverty percentage.

The next change to DPIA was in FY98 when the legislature began mandating that DPIA funds be spent on one of three purposes; safety and remediation, all-day kindergarten, or class size reduction. Funding for each for these purposes was made separate and districts may qualify for one, two, or all three of these programs. In addition to these changes, a DPIA funding guarantee was established based on FY98 funding levels.

A significant change in funding for districts with high poverty came in FY06 when the DPIA program was discontinued and replaced by *Poverty Based Assistance (PBA)*. PBA was both an expanded and more restrictive funding program than was DPIA. Separate PBA funding was available for all-day kindergarten, class size reduction, services for limited English proficient (LEP) students, professional development, dropout prevention ("Big 8" districts only), community outreach ("Urban 21" districts only), and intervention services. Districts had to qualify for each of the above programs individually and PBA funds could be expended only in these areas. Additionally, PBA funding including a

guarantee that was based on FY05 funding levels rather than FY98 levels, as had been the case under DPIA.

PBA was discontinued in FY10 and FY11 when the Evidenced Based funding Model (EBM) was in place. The EBM, however, did include a component called the Educational Challenge Factor (ECF) that provided additional funding based on the income, concentration of poverty and level of college attainment of residents of each school district. This was discussed above on page 11.

When Ohio returned to a foundation formula funding mechanism in FY14, the component that had previously been DPIA and PBA became known as *Economically Disadvantaged Aid*. Economically disadvantaged funding is based upon the economically disadvantaged index that compares the percentage of students in poverty in each district to the statewide average percentage. This ratio is squared (in order to increase the rate at which funding increases for districts with higher percentages of students in poverty) and is then multiplied by a base per pupil $ amount. The base amount was $269 per pupil in FY14 and was increased to $272 per pupil in FY15 where it has remained ever since. The $272 base amount appears to be an arbitrary figure as none of Ohio's various versions of economically disadvantaged student funding has ever been based upon any objective analysis of the costs imposed by poverty.

Like virtually every other state, Ohio uses the percentage of students eligible for Federal free or reduced price lunch as the measure of economically disadvantaged students. Note, however, that the reliability of this measure has decreased since Ohio began to implement the Community Eligibility Program (CEP) for free and reduced price lunch in 2013. CEP allows schools and districts that exceed a threshold of low-income students of roughly 65% to provide free breakfast and lunch to all students in the building or district. While the CEP program has provided significant benefits in terms of increasing access to lunch and breakfast for many low-income students, it has also inflated the percentage of economically disadvantaged students in the participating districts, as all students in qualifying buildings are considered eligible for free and reduced price lunch. In FY18 roughly 90 districts implemented the CEP program.

Table 7 below provides a summary of funding provided to districts with high concentrations of economically disadvantaged students in Ohio from 1985 through 2018, while Table 8 provides a comparison of changes in poverty funding with increases in the foundation per pupil amount over the same time frame.

Table 7 shows that funding for economically disadvantaged students more than doubled in the 25 year period from FY85 to FY09, increasing from $204.4 million in FY85 to $470.2 million in FY09. This is a rate of increase of more than 130%. Over the same time frame, the foundation level increased at a rate of 195% (increasing from $1,943 per pupil in 1985 to $5,732 in FY09). However, Table 7 also shows that funding for economically disadvantaged students is lower in FY18 (($408.7 million) than it was in FY09. As a result, the overall increase in funding for economically students from 1985 to 2018 is 100.2%, which is less than half the increase in the base per pupil amount over the same time frame (209.3%).

Table 7: Funding for Districts with High Concentrations of Economically Disadvantaged Students, FY85-FY18

Year	DPPF	DPIA	PBA	TOTAL	% Increase
FY85	$40,000,000	$164,233,502		$204,233,502	
FY86	$30,326,437	$183,002,493		$213,328,930	4.45%
FY87	$40,121,820	$212,739,956		$252,861,776	18.53%
FY88	$39,878,592	$218,864,135		$258,742,727	2.33%
FY89	$40,131,420	$220,534,214		$260,665,634	0.74%
FY90	$40,131,420	$220,887,342		$261,018,762	0.14%
FY91	$40,123,951	$227,121,617		$267,245,568	2.39%
FY92	$37,586,392	$221,851,324		$259,437,716	-2.92%
FY93	$39,997,701	$241,633,758		$281,631,459	8.55%
FY94	$39,435,468	$239,186,933		$278,622,401	-1.07%
FY95	$39,548,623	$348,383,204		$387,931,827	39.23%
FY96		$297,163,702		$297,163,702	-23.40%
FY97		$280,129,959		$280,129,959	-5.73%
FY98		$276,764,077		$276,764,077	-1.20%
FY99		$344,923,775		$344,923,775	24.63%
FY00		$337,543,392		$337,543,392	-2.14%
FY01		$333,118,797		$333,118,797	-1.31%
FY02		$324,640,211		$324,640,211	-2.55%
FY03		$315,546,197		$315,546,197	-2.80%
FY04		$322,838,791		$322,838,791	2.31%
FY05		$330,423,012		$330,423,012	2.35%
FY06			$361,350,111	$361,350,111	9.36%
FY07			$408,755,291	$408,755,291	13.12%
FY08			$452,149,545	$452,149,545	10.62%
FY09			$470,178,046	$470,178,046	3.99%
FY10	EBM: Disadvantaged Pupil Aid part of Education Challenge Factor (ECF)				
FY11	EBM: Disadvantaged Pupil Aid part of Education Challenge Factor (ECF)				
FY12	Bridge Formula: No Individual Funding Components				
FY13	Bridge Formula: No Individual Funding Components				
FY14*				$332,697,675	-29.24%
FY15*				$372,144,220	11.86%
FY16*				$376,638,982	1.21%
FY17*				$401,173,389	6.33%
FY18*				$408,716,402	1.73%

Source: FY85 through FY98 data from State Board of Education Annual Reports, FY99 through FY09 from state total SF-3 reports. FY14 through FY18 data from ODE SFPR reports.

* FY14 – FY18 Disadvantaged Pupil Aid amounts are after Gain Cap is applied

Table 8 also shows that more than 2/3 of the increase in funding for economically disadvantaged pupils in Ohio occurred in the 11 year period FY98 to FY09, when funding increased from $276.8 million to $470.2 million (69.9% increase). In the 14 year period from FY85 to FY98, funding only increased by 35.5% ($204.2 million to $276.8 million). Additionally, from FY98 to FY09, funding for economically disadvantaged students increased at a faster pace than that of regular students (as measured by the base per pupil foundation level).

Table 8: Funding for Districts with High Concentrations of Economically Disadvantaged Students, FY85-FY18

	% Increase in Poverty Aid	% Increase in Foundation Level
Growth in Funding from FY85 to FY98	35.5%	88.5%*
Growth in Funding from FY98 to FY09	69.9%	56.5%
Growth in Funding from FY09 to FY18	-13.0%	4.8%
Growth in Funding from FY90 to FY18	100.2%	209.3%

* The Foundation level was $1,943 per pupil in FY85 and $3,663 per pupil in FY98.

Table 9 combines the poverty data in Table 7 with additional data showing the number of economically disadvantaged students from FY01 through FY18 (note that the number of economically disadvantaged students prior to FY01 was not available on the ODE website).

There are 2 fundamentally important conclusions to be draw from the data shown in Table 9. First, there was a significant decrease in poverty-related funding from FY09 to FY14. The FY14 post-gain cap poverty funding amount of $330.0 million was a 29.8% reduction from the $470.2 million provided through PBA in FY09. ***In fact, the FY14 economically disadvantaged aid amount was lower than the DPIA funding amount provided in FY99***.

Since 2014, funding has increased by 22.8% to the FY18 level of $408.7 million (after the application of the gain cap). However, since FY01, the statewide percentage of economically disadvantaged students has nearly doubled from 27.0% to the current level of nearly 49% of students being eligible for free or reduced price lunch. Thus the second fundamental insight to be found in Table 9 is that ***from FY01-FY18 the number of economically disadvantaged students in Ohio has increased by 66.7% while the amount of aid directed towards these students has only increased by 22.7%.***

Given the strong negative correlation between poverty and student achievement, it is imperative that Ohio prioritize the availability of resources to districts with high concentrations of poverty.

Table 9: Number and Percent of Economically Disadvantaged Students and State Aid for Districts with High Concentrations of Poverty Students, FY01-FY18

Year	Program	Poverty Aid Amount	% Increase	# of Econ. Disadvant. Students*	% Econ. Disadvant. Students
FY01	DPIA	$333,118,797	-1.31%	494,829	27.0%
FY02	DPIA	$324,640,211	-2.55%	512,624	28.0%
FY03	DPIA	$315,546,197	-2.80%	535,072	29.1%
FY04	DPIA	$322,838,791	2.31%	544,374	29.5%
FY05	DPIA	$330,423,012	2.35%	575,202	31.3%
FY06	PBA	$361,350,111	9.36%	*597,517*	*32.5%*
FY07	PBA	$408,755,291	13.12%	619,247	33.7%
FY08	PBA	$452,149,545	10.62%	616,031	*33.8%*
FY09	PBA	$470,178,046	3.99%	661,151	36.4%
FY10	ECF	--	--	709,928	40.2%
FY11	ECF	--	--	745,121	42.5%
FY12	Bridge Formula	--	--	758,106	43.6%
FY13	Bridge Formula	--	--	795,120	47.8%
FY14	EDA	$332,697,675	-29.24%	801,657	46.5%
FY15	EDA	$372,144,220	11.86%	830,275	48.3%
FY16	EDA	$376,638,982	1.21%	827,858	48.3%
FY17	EDA	$401,173,389	6.33%	841,224	49.3%
FY18	EDA	$408,716,402	1.73%	825,942	48.6%
FY01-18 Change		**$75,597,605**	**22.7%**	**331,113**	**66.9%**

* The number and percent of economically disadvantaged students in FY01-FY12 from NCES Digest of Education Statistics tables showing student eligibility for free or reduced-price lunch. (FY06 figures estimated by NCES.) FY13 figures computed from ODE State Report Card. FY14-FY17 number and percent of economically disadvantaged students from ODE Final school funding payment report for each year. FY18 data from June #2 SFPR Report.

The following points provide a summary of the main issues relating to funding for economically disadvantaged students in Ohio:

- For much of the past 30+ years, funding for economically disadvantaged students has increased at a far slower rate than the foundation level. Even worse, poverty funding has actually *decreased* by 13% from FY09 to FY18.
- Since 2001, the rate of increase in the number of low income students has been nearly 3 times as great as the rate of increase in state funding for these students.
- Funding for economically disadvantaged students in Ohio has become significantly more structured and restricted in the past 15 years as funding has been focused on programs related to the additional needs of these students and away from unrestricted grants.

- There has never been an objective study to determine the adequate level of funding for the programs needed to serve economically disadvantaged students.
- The focus on funding programs for economically disadvantaged students has largely ignored the impact of poverty on the social and emotional needs of low-income children. These issues need to be addressed alongside – and arguably before – the academic needs of these children.

6. Funding for Career Technical Education

Career technical education (aka "vocational education") is delivered in Ohio through an organizational structure knows as Career Technical Planning Districts or "CTPDs". There are 91 CTPDs in Ohio. There are 49 Joint Vocational School Districts (JVSDs) 16 Career Technical "Compacts" which reflect contracting arrangements among groups of K-12 school districts, and 25 Career Tech "Comprehensive" districts which provide career technical programs for their own students. According to a 2011 list of school districts posted on the ODE website, the JVSDs provide career technical programs to 506 school districts, the Compacts serve 80 districts and the 25 Comprehensives provide their own career technical services. 5 of the 6 major urban districts are Comprehensives, while Columbus is in a Compact with 2 suburban Franklin county school districts.

JVSDs are independent administrative entities with their own superintendents, treasurers, school boards, and have taxing authority separate from that of the 610 K-12 school districts in Ohio. In contrast, career tech Compacts are simply voluntary contracting agreements among the participating school districts with one district designated the lead district for financial and accountability purposes.

The 49 JVSDs have their own state funding formula that is similar to that in place for the 610 K-12 school districts. The JVSDs provide a full array of traditional academic courses along with vocational programs. Consequently they receive core opportunity aid, special education funding, economic disadvantaged aid, aid for limited English proficient students, the graduation rate bonus, and career technical education (CTE) weighted funding. These funding parameters are all the same for the JVSDs as they are for the regular K-12 districts. The most significant difference between JVSD and regular district funding is that the local share of JVSD funding is based on a ½ mill chargeoff rather than on the State Share Index. The JVSD chargeoff millage rate of ½ mill is significantly lower than was the chargeoff for regular school districts (which ranged between 20 and 23 mills when it was in place). This is because the JVSDs are all county-wide or multi-county in scope and have much higher property valuations than do the regular K-12 school districts, thus making a lower millage chargeoff appropriate.

In FY18, JVSDs educated 39,638 students in Ohio and received $309.9 million in state aid. **$84.7 million of this amount was comprised of weighted funding for CTE programs**.

Funding for career technical education in regular school districts has three components.

1) Weighted funding for career technical education is provided for all students who are not participating in CTE programs through a JVSD. In FY18, 30,425 students participated in career technical education through a regular K-12 school district. The different career technical education programs are grouped in to 5 different categories for funding purposes, with different funding amounts provided for each category. Each district's state share index is applied to the computed funding amount in order to determine the state share.

2) Career Tech "Associated Services" funding is provided at a rate of $245 per pupil for each student participating in career technical education. The state share index is also applied to CTE associated services funding.

   In FY18, total career tech weighted and associated services state funding was $69.6 million. When JVSD funding is included, 70,063 Ohio students participated in CTE programming and the state provided a total of $154.3 million in CTE funding.

3) In addition to career tech weighted funding and associated services funding, career technical education students in regular K-12 districts that are members of a JVSD or a Compact also count as 0.2 FTE in the ADM count of the "home" school district. This means that these students generate a share of state funding for the home district that can be used to cover the costs of transportation and other services not provided by the JVSD or Compact district that is providing the career technical education programs.

Weighted Funding for Career Technical Education

Prior to FY2000, funding for career technical education was provided on a "classroom unit" approach similar to that used for special education. Beginning in FY2000 a weighted pupil approach to career technical education funding was adopted. Career tech programs were grouped into 2 categories for funding purposes with the Category 1 weight set 0.60 and the Category 2 weight set at 0.30. CTE associated services were funded at a weight of 0.05. It is unclear what methodology (if any) was used to arrive at these weights. Under the weighted funding approach, CTE funding was determined by multiplying the weight for each category times the base per pupil amount ($4,052 in FY2000 and $4,294 in FY2001), and then multiplying by number of CTE students in each category and then by the state share percentage in each district to determine the total amount of state funding for career technical education. The same CTE weights were employed in JVSDs and in the regular K-12 districts.

In FY02 the methodology for computing the base per pupil amount was altered and the base amount jumped from $4,294 to $4,814. As result, the CTE weights were reduced from 0.6 and 0.3 to 0.57 and 0.28, respectively. Note that even thought the weights were reduced by 5% the dollar amount provided through the weights actually increased because the base cost amount increased by 12.1% from FY01 to FY02. These weights remained in effect through FY09. When the Evidenced Based Model for funding (EBM) was implemented in FY10 and FY11 the weights were not utilized, however, CTE funding was simply increased by 0.75% per year. In FY12 and FY13 under the "Bridge

Formula" individual funding components for CTE or any other aspect of K-12 education were not utilized.

When the current funding model was implemented in FY14 the CTE weights were replaced by per pupil amounts (as was done for special education), and the number of CTE funding categories was increased from 2 to 5. It ids also unclear what methodology (if any) was used to determine these new weighted funding amounts. The State Share Index is now used to determine the amount of state funding in each district rather than the state share percentage previously used.

Table 10 provides a summary of CTE weighted pupil funding from FY2000-FY2013, while Table 11 provides the same information for the years FY14 through FY19.

Table 10: Career Technical Education Weighted Funding Amounts, FY00-FY13

Fiscal Year	Base Cost Amount	Category 1 CTE Weight	Category 2 CTE Weight	Associated Services Weight
FY00-01		**0.60**	**0.30**	**0.05**
FY00	$4,052	$2,431	$1,216	$203
FY01	$4,294	$2,576	$1,288	$215
FY02-09		**0.57**	**0.28**	**0.05**
FY02	$4,814	$2,744	$1,348	$241
FY03	$4,949	$2,821	$1,386	$247
FY04	$5,058	$2,883	$1,416	$253
FY05	$5,169	$2,946	$1,447	$258
FY06	$5,283	$3,011	$1,479	$264
FY07	$5,403	$3,080	$1,513	$270
FY08	$5,565	$3,172	$1,558	$278
FY09	$5,732	$3,267	$1,605	$287
FY10	0.75% Incr.	$3,292	$1,617	$289
FY11	0.75% Incr.	$3,316	$1,629	$291
FY12 & FY13	Bridge Formula – Career Tech. Funding Based on FY11 $ Amount			

Table 11: Career Technical Education Per Pupil Funding Amounts, FY14-FY19

Fiscal Year	Category 1 CTE Weight	Category 2 CTE Weight	Category 3 CTE Weight	Category 4 CTE Weight	Category 5 CTE Weight	Associated Services Weight
FY14	$4,750	$4,500	$1,650	$1,400	$1,200	$225
FY15	$4,800	$4,550	$1,660	$1,410	$1,200	$227
FY16	$4,992	$4,732	$1,726	$1,466	$1,258	$236
FY17-FY19	$5,192	$4,921	$1,795	$1,525	$1,308	$245

Table 10 shows both the CTE weights employed in each year and also shows the dollar amount per pupil that the weights translate into based on the annual base cost amount (as described above). The CTE funding amounts increased every year from FY00 through FY11 under this model.

Table 11 provides the same information for the years FY14 through FY19. Note however, that after increases in the CTE funding amounts in FY15, FY16 and FY17, no increases occurred in FY18 and FY19.

B. Equity

1. Determination of the State & Local Share of Funding

While the base cost computation and the addition of the categorical funding for special education, economically disadvantaged, and other students with exceptional needs provides the bedrock of an adequate school funding formula, the mechanism for sharing of the cost between the state and local school districts is the driving force of the equity of the school funding system.

From the mid-1980s through FY2011, Ohio's school funding formula determined the state and local share of funding by a mechanism known as the "chargeoff". The chargeoff approach determines the local share of school funding by multiplying a fixed millage rate times each district's total property valuation. The chargeoff method is viewed as equitable because multiplying a fixed millge amount times a wealthier district's property wealth results in a larger local share than when the chargeoff millage is multiplied by a poorer district's smaller total property valuation. (Note that at various times the property valuation amount has been modified to adjust for considerations such as district income, growth from property reappraisal, and/or considerations relating to the amount of exempt property in a school district. This adjustment has been called "adjusted" or "recognized" value.)

Table 12 shows the chargeoff millage rate from FY90-FY11.

Table 12: Chargeoff Millage Rate, FY90-FY11

Year	Chargeoff		Year	Charge-off
FY 1990	20 mills		FY 2001	23 mills
FY 1991	20 mills		FY 2002	23 mills
FY 1992	20 mills		FY 2003	23 mills
FY 1993	20 mills		FY 2004	23 mills
FY 1994	**20.5 mills**		FY 2005	23 mills
FY 1995	**21 mills**		FY 2006	23 mills
FY 1996	**22 mills**		FY 2007	23 mills
FY 1997	**23 mills**		FY 2008	23 mills
FY 1998	23 mills		FY 2009	23 mills
FY 1999	23 mills		FY 2010	**22 mills**
FY 2000	23 mills		FY 2011	**22 mills**

Table 12 shows that prior to FY94, the chargeoff millage rate had been 20 mills since the foundation formula was adopted in 1981. The 20 mill chargeoff rate made sense because the millage floor for purposes of HB 920 is 20 mills, as is the minimum qualifying millage that a district must levy to be eligible for state aid. However, over the 4 year period from 1994 through 1997 the chargeoff millage amount was increased from 20 mills to 23 mills.

The rationale for increasing the chargeoff millage rate was to increase the equity of the funding system. Increasing the chargeoff increases the local contribution for every school district. This in turn frees up state funding that could then be used to increase the foundation level beyond where it would be with a lower chargeoff and the same total amount of state aid. Because poorer districts benefit more from a higher foundation level than do wealthier districts, the result of a higher chargeoff is a more equitable funding system.

Some education advocates have argued that the state did not in fact reinvest the money saved by raising the chargeoff in a higher foundation level. However, examination of the data on the base cost amount shown in Table 1 on page 13 of this report refutes this position. Putting aside the 1.9% increase in the foundation level in FY04 (one of the worst budget years in recent history), the 5.7%, 9.2%, and 5.6% increases in the foundation level from FY95 through FY97 were all much larger than the increases in preceding and succeeding years. In fact, the 9.2% increase from FY95 to FY96 (when the chargeoff increased from 21 to 22 mills) is the second largest increase over the past 25 years. Only the 12.1% increase in FY02 is larger, but this increase was related to an accompanying reduction in (and subsequent elimination of) the formula's "Cost-of-Doing-Business" factor.

"Formula Phantom Revenue" and "Gap Aid"

The most persuasive argument against the increase in the chargeoff is that it obligated the state to provide chargeoff supplement aid (a.k.a. "Gap Aid") to districts with effective millage below 23 mills. Gap Aid is necessary to assist districts whose overall effective millage rate is less than 23 mills. The phenomenon where a district would have effective millage below their chargeoff level became known as "formula phantom revenue" because the funding formula was presuming that these school districts had more local revenue than they actually collected (i.e. "phantom" revenue). Gap Aid was thus designed in order to assure that these districts would not have a chargeoff greater than their actual revenue capacity. Gap Aid was estimated to cost the state roughly $100 million in FY09. In order to alleviate the need for gap aid in Ohio's funding formula it would be necessary to make one of three changes:

1) Make the chargeoff millage equal to the millage floor, either by lowering the chargeoff or raising the floor, or;
2) Create a variable chargeoff where each district has a chargeoff equal to the lesser of 23 mills or their actual effective millage rate.
3) Abandon the charge-off approach entirely.

In 2009, the implementation of the Evidence Based Model (EBM) took the first approach to resolving this issue. The chargeoff in FY10 and FY11 was reduced from 23 mills to 22 mills. The intention was to continue to reduce the chargeoff in subsequent biennia until it returned to 20 mills. However, the defeat of Ted Strickland by John Kasich in the 2010 Gubernatorial election resulted in the elimination of the EBM in FY12.

Addition and Eventual Removal of the Income Factor To the Formula

In FY97 a second equity-enhancing adjustment was made to the chargeoff calculation. For districts in which the median income was below the state median income, a fairly complex calculation was made that incorporated an income adjustment to the district's recognized property valuation figure used in the local chargeoff calculation. The application of this income factor served to lower the district's valuation, causing them to receive more state aid than they would otherwise. For example, in FY01 the income adjusted recognized value calculation looked as follows:

Adjusted Recognized Valuation =
(4/15) * ((Valuation Per Pupil - (60000 * (1 - (Dist Median Income / State Median Income)))) * Formula ADM)) + ((11/15) * Recognized Valuation))

The rationale for this adjustment was that districts with low income levels would find it more difficult to raise local revenues because their voters do not have the means to support the necessary taxes. As a result, their local share should be lower and they would receive more state aid, thereby further enhancing the equity of the funding formula. Because the income adjustment applied only to districts with median incomes below the statewide median income, the adjustment could only help districts and not hurt them.

The income-adjusted chargeoff was scheduled to be phased in over a 15-year time frame, however, the income adjustment was removed in FY02 as part of the HB 94 funding formula changes.

Elimination of the Local Millage Chargeoff

After the 2 years of the "Bridge" Formula in FY12 and FY13, the most significant change to Ohio's school funding formula in FY14 and FY15 was the elimination of the local chargeoff and the adoption of the State Share Index (SSI). As mentioned above, for nearly 30 years, Ohio's local share of education has been determined by the millage chargeoff approach. The advantage of the chargeoff is that it is equitable and simple to explain. The disadvantage, as discussed above, is that it lends itself to both reappraisal phantom revenue and to "formula phantom revenue" when the millage rate is set at a level above a district's effective property tax rate (including school district income tax revenues). Gap Aid was constructed in order to address the second of these problems, while "recognized value" was created to ameliorate the effect of reappraisal phantom revenue. In addition, "Excess cost aid" was added to the formula roughly 10 years ago in order to ensure that districts had sufficient local capacity to pay the for the local share of categorical funding elements such as special education and career tech.

HB 59 in 2013 replaced this complex web of local share calculations with the State Share Index. The State Share Index (SSI) is itself a complex web of property value and median

income ratios. The essential idea is that a valuation index is created where every district's 3-year average property value per pupil is divided by the state average property value per pupil. An income index is also created in a similar manner. Initially the income index was based on median income, however, it was modified in the FY16-17 state budget to use both median income and adjusted gross income (AGI) per pupil. Finally, an overall wealth index is created by combining the valuation and income indices, using 60% valuation index and 40% income index in districts whose income index is less than 1.5 times the state average and where the income index is less than the valuation index (i.e. where it would help the district to add in its relative median income). Only the valuation index is used in other districts.

The State share index is then computed in a complicated and not altogether intuitive series of computations. When the dust clears, a state share index ranging from .05 in the wealthiest school district to .90 in the poorest district results. This is hardly the most transparent way to determine the state/local share in each district.

The following is a summary of key points about the SSI:

1. The SSI is applied to Core Opportunity Aid, Special Ed, Career Tech, LEP, a portion of K-3 Literacy, and Transportation funding.

2. The SSI essentially acts a variable chargeoff. 583 districts (95.3%) had "chargeoff equivalent millage" between 18 and 23 mills under the SSI in FY14. (Chargeoff equivalent millage represents the millage amount equivalent to the local share in each district under the SSI.) Note that this millage range reflects only the local share of core opportunity aid, and does not include the local shares of the categoricals (see pt. 6 below).

3. The utilization of property wealth per pupil in the wealth index means that changes in student enrollment over time will now influence the local share calculation. A district whose property valuation remains the same but whose ADM decreases will now have a higher property value per pupil (and *vice versa*). In this regard, per pupil property valuation may not be as reliable an indicator of local ability-to-pay as is total property valuation.

4. The utilization of the wealth index where each district's property wealth per pupil is divided by the statewide average wealth per pupil now means that a district's local share is now dependent not just on changes in the districts' wealth but also on how a district's wealth changes in relation to that of other districts. This makes the local share harder to predict over time, and also potentially less stable over time.

5. The inclusion of the median income index when it is less than the valuation index introduces significant anomalies in the local share calculation in the middle ranges of the SSI. An alternate method (including the median income index if it is below a prescribed threshold, irregardless of its relationship the valuation index) would be much more logical and equitable.

6. The elimination of both Gap Aid and the Excess Cost Supplement under the SSI approach may mean that some districts do not have sufficient local to cover the

presumed local share in the FY14-15 funding formula when the categoricals are included.

7. While the problem of reappraisal phantom revenue is less obvious under the SSI approach than it is under the chargeoff approach, it is still present. This will be the case with virtually any method of determining the state and local share of funding that is based on property valuation rather than on actual taxes collected. This is because of the impact of the HB 920 millage reductions.

2. "Tier 2" Funding Elements Designed to Further Enhance Equity

A. The "Equity Fund"

Beginning in FY93, the state established an "Equity Fund" to provide additional funding to low wealth school districts. Table 13 shows the amount distributed through the equity fund and the number of recipient districts in each year of the 13 years it was in place. FY98 was the high water mark for the equity fund with funding reaching $109.4 million flowing to 292 districts. Phase-out of the fund began in FY99, the year that the new post-*DeRolph* funding formula was implemented, and ended in FY05.

Table 13: Equity Fund Total Funding and Number of Districts, FY93-FY05

Year	Total Funding (Millions)	# of Districts
FY 1993	$43.8	234
FY 1994	$60.0	242
FY 1995	$75.0	269
FY 1996	$90.0	278
FY 1997	$100.0	292
FY 1998	$109.4	292
FY 1999	$66.5	228
FY 2000	$47.3	195
FY 2001	$33.4	162
FY 2002	$22.6	117
FY 2003	$18.9	117
FY 2004	$13.4	117
FY 2005	$7.1	117

Source: Ohio Department of Education

The equity fund was established shortly after the *DeRolph* lawsuit was first filed in Perry County. The early 1990s was also a recessionary period which created significant stress on the state budget. Some education advocates have dismissed the equity fund as "gimmick" or as an outright admission from the state that the funding system was inequitable and ultimately unconstitutional.

Such criticisms are unfair. By working from the bottom of the wealth distribution upward, a mechanism such as the equity fund provides an efficient way to target

additional resources to the school districts that most need them are least able to raise them locally. No matter how high the foundation level is set, wealthier school districts will always have an advantage compared with poorer school districts. This is because an additional mill in a wealthy district raises more revenue than does a mill in a poorer district, and also because wealthier districts tend to be more successful passing levies than are poor districts. Rather than considering the Equity Fund to be a gimmick contrived to provide cover against a lawsuit, it is more fitting to consider it the precursor to the subsequent Parity Aid component and current Targeted Assistance component.

B. Power Equalizing Assistance & Parity Aid

In FY99 the legislature added Power Equalizing Enhancement Aid to the state aid formula. This component providing state matching funds for districts with millage between 23 and 25 mills. The purpose of this was to equalize the yield per mill for districts with effective tax rates above the chargeoff millage of 23 mills and up to 25 mills. This provided lower wealth districts with the same opportunity to generate 2 more mills of additional revenue as did wealthier districts. Power equalization funding was to be phased in over a 4 year period, with full implementation in FY02.

Table 14 provides a summary of Power Equalization Enhancement Aid from FY99-FY01.

Table 14: Power Equalizing Assistance Funding, FY99-FY01

Fiscal Year	Total Funding (Millions)	Phase-in Percentage	# of Districts Receiving Aid
1999	$10.5	25%	329
2000	$21.6	50%	324
2001	$32.0	75%	301

Source: Ohio Department of Education

Before power equalization aid could be fully implemented, it was replaced by Parity Aid in FY02. The purpose of Parity Aid was to provide supplemental funding to lower wealth school districts so that they could provide additional educational services beyond mere adequacy, as is the case in Ohio's wealthier districts. As initially enacted, parity aid provided additional funding to districts below the 80th percentile in local wealth per pupil. Local wealth is computed as a combination of recognized property valuation and average federal income. The 80th percentile means that the 490 lowest wealth districts would receive aid. The objective of parity aid was to provide the 80% of the lowest wealth districts in Ohio with additional resources beyond that assured through the foundation formula and the categorical aid programs.

The per pupil amount of parity aid was determined by computing the amount by which the districts fell below the per pupil local wealth threshold (amount of the 491st wealthiest district) and then multiplying this amount by a base millage rate (initially set at 9.5 mills). This per pupil amount was then multiplied by formula ADM to determine each district's

total parity aid funding (there was also an alternative parity aid calculation that provided a small number of districts with additional funding).

Parity aid was initially intended to be phased in over a 5 year period from FY02 through FY06. However, the initial phase-in schedule was only followed for the first two years. Rather than providing funding at 60% and 80% in FY04 and FY05, funding was only provided at 58% and 76% in these years.

More importantly, in 2005, HB 66 lowered the base millage rate from 9.5 mills to 7.5 mills. This allowed the legislature to increase funding by only $34 million in FY06 and still declare that the 100% phase-in target had been reached. Full funding of parity aid in FY05 would have required $559.6 million, $100 million more than the $459.3 million in "full" funding provided in FY06.

HB 119 in 2007 made a different type of change by altering the parity aid local wealth threshold. Instead of using the 80th percentile as in prior years, the threshold was the 67th percentile in FY08 and the 60th percentile in FY09. This change meant that the number of districts qualifying for parity aid decreased from 490 in FY07 to 411 in FY08 and to 368 in FY09. At the same time, the millage rate multiplier was increased to 8.0 mills in FY08 and 8.5 mills in FY09 so that the districts still receiving parity aid received greater amounts.

Table 15 below provides a summary of parity aid funding and the key parameters. As the table shows, the total amount of funding provided by parity aid in FY02 was more than 3 times greater than the amount of funding provided through power equalization assistance in FY01.

Table 15: Parity Aid/ Targeted Assistance Funding Parameters and Amounts, FY02-FY09

Fiscal Year	Total Funding (Millions)	Increase in $	Phase-in Percentage	Base Millage Rate Used	Local Wealth Threshold	# of Districts Receiving Aid
2002	$99.9	--	20%	9.5 Mills	490th district	490
2003	$209.3	$109.4	40%	9.5 Mills	490th district	490
2004	$321.3	$112.0	58%	9.5 Mills	490th district	490
2005	$425.3	$104.0	76%	9.5 Mills	490th district	490
2006	$459.3	$34.0	100%	7.5 Mills	490th district	490
2007	$480.0	$20.7	100%	7.5 Mills	490th district	490
2008	$483.1	$3.1	100%	8.0 Mills	411th district	411
2009	$510.9	$27.8	100%	8.5 Mills	368th district	368

Parity Aid was eliminated in FY10 and FY11 when the EBM was adopted. Under the EBM, the Education Challenge Factor served the purpose of providing additional funds to school districts beyond that provided by the adequate funding model. In FY12 and FY13, the Bridge Formula did not have conventional funding formula components as it was merely a mechanism to provide temporary funding based on FY11 funding levels.

C. Targeted Assistance

In the FY14-15 funding formula (HB 59) "Targeted Assistance" was adopted as to replace Parity Aid as the supplemental funding component of the state aid formula. Targeted Assistance has two parts. The first part utilizes a wealth index based on both property wealth and district income (similar to that used in Parity Aid) that is then multiplied times a base or "target" millage rate (6 mills in both FY14 and FY15). The "target" millage rate then increases or decreases depending on whether a district's wealth index is above or below the state average wealth. In this way eligible districts with higher than average wealth would have the target millage rate lowered below 6.0 mills, while districts with lower than average wealth per pupil would have the target millage rate increased beyond 6.0 mills. As a result of the index, the millage equalization level under Targeted Assistance ranged from 5 mills to 15.5 mills in FY14. Each district then receives aid sufficient to equalize its wealth up to the 80th percentile (490th districts), or roughly $182,000 per pupil. As with Parity Aid, school districts do not need to actually levy the equalization millage in order to receive Tier 1 Targeted Assistance.

The FY14-15 budget also included a second component of Targeted Assistance designed to provide additional resources to rural districts based on their percentage of agricultural property. School districts eligible for Targeted Assistance whose percentage of agricultural property value was 10% or more received an additional 40% of their Targeted Assistance amount as Tier 2 aid. Districts with les than 10% agricultural value received Tier 2 Targeted Assistance based on based on a sliding scale from 40% down to 0% for districts with no agricultural value.

In the FY16-17 budget, the formula for Tier 2 of Targeted Assistance was altered to focus more directly on Agricultural districts. Tier 2 Targeted Assistance was limited only to districts with more than 10% agricultural value and eligibility for Tier 1 Targeted Assistance was no longer a criteria for Tier 2 aid. Districts with 10% or more of agricultural value received a maximum (on a sliding scale) of 40% of the core opportunity aid per pupil amount times their formula ADM (largely excluding community school and voucher students). This amounted to $2,340 per student in FY16 and $2,400 per student in FY17, and increased to $2,404 in Fy18 and to $2,408 in FY19.

Table 16 provides a summary of Targeted Assistance funding from FY14 through FY18.

Table 16: Targeted Assistance Funding Parameters and Amounts, FY14-FY18

Fiscal Year	Tier 1 Targeted Assistance Base Millage Rate Used	# of Districts Receiving Tier 1 Targeted Assistance	Pre-Cap Tier 1 Targeted Assistance Total Funding (Millions)	Post-Cap Tier 1 Targeted Assistance Total Funding (Millions)	Pre-Cap Tier 2 (Ag Property) Targeted Assistance (Millions)	Post-Cap Tier 2 (Ag Property) Targeted Assistance (Millions)	Total Post-Cap Targeted Assistance
2014	6.0 Mills	489	$604.4	**$534.3**	$90.9	**$80.3**	**$614.7**
2015	6.0 Mills	489	$670.0	**$618.2**	$94.0	**$86.8**	**$705.0**
2016	6.0 Mills	489	$703.2	**$656.4**	$137.1	**$127.9**	**$784.3**
2017	6.0 Mills	489	$747.6	**$711.4**	$156.7	**$149.1**	**$860.5**
2018	6.0 Mills	489	$777.0	**$734.1**	$168.1	**$158.8**	**$892.9**

Table 16 shows that funding for Tier 1 of Targeted Assistance (after the application of the Gain Cap) was $534.3 million in FY14. This was $23.4 million (4.6%) higher than was Parity Aid funding in FY09. If Targeted Assistance had not been limited by the gain cap, it would have totaled $604.4 million in FY14. This amount would have been an 18.3% increase over FY09 Parity Aid. Tier 1 Targeted Assistance has increased steadily from FY14 through FY18, currently generating $734 million in additional state aid to the 489 lowest wealth school districts in Ohio. This amount is 43.7% more than the FY09 Parity amount of $511 million. The increase in Target Assistance would have been 52% had the gain cap not been imposed.

Tier 2 of Targeted Assistance has also increased from FY14 to FY18, with Post-Cap assistance growing from $80 million in FY14 to $159 million in FY18. Total (post-Cap) Targeted Assistance in FY18 was $893 million, a 74.8% increase from the FY09 Parity Aid amount.

D. Capacity Aid

The FY16-17 budget also was responsible for the implementation of an additional equity component of the funding formula known as "Capacity Aid". Capacity Aid is designed to provide supplemental funding to smaller school districts with relatively low property wealth (as opposed to Targeted Assistance which is based on low valuation and income on a per pupil basis). These districts struggle to raise adequate revenue from local levies by virtue of their small size and tax bases. In order to rectify this problem, Capacity Aid is provided (on a sliding scale) to districts that raise less than the median amount of revenue from one mill of property taxation. The Capacity Aid formula works by providing all eligible districts with sufficient aid to generate the average per pupil revenue of the median capacity districts in the state times a millage multiplier. The millage multiplier has increased from 2.75 in FY16 to 3.50 in FY17 to 4.0 in both FY18

and FY19. Capacity Aid was exempted from the Gain Cap in FY16 and FY17 but is subject to the Gain Cap in FY18 and FY19.

Table 17 provides a summary of Capacity Aid from FY16 through FY18.

Table 17: Capacity Aid Parameters and Amounts, FY16-FY18

Fiscal Year	Capacity Aid Millage Multiplier	# of Districts Receiving Capacity Aid	Pre-Cap Capacity Aid (Millions)	Post-Cap Capacity Aid (Millions)
2016	2.75 Mills	305	N.A.	**$143.1**
2017	3.5 Mills	305	N.A.	**$174.5**
2018	4.0 Mills	305	$196.3	**$192.5**

In FY18 the pre-cap total of Targeted Assistance (both Tier 1 and Tier 2) and Capacity Aid was $1.141 billion, and the post-cap actual amount of total aid for these funding components was $1.085 million.

3. Cost-of –Doing Business Factor Phase-Down and Elimination

As mentioned briefly above, the Cost-of-Doing Business (CDB) factor was lowered to a range of 7.5% in FY02 and then phased down and ultimately eliminated from FY06-FY08.

The CDB factor was in place in Ohio since at least 1990. The factor was based upon county wage rate data from the Bureau of Labor Statistics for all sectors of the economy excluding education. Average weekly wages in each county and any contiguous counties were averaged to compute a wage rate figure for each of Ohio's 88 counties. Each county's average wage rate would be divided by the lowest wage rate of all the counties in order to create an index.

The range from lowest to highest county average wage typically ranged from 35-40%, however for purposes of constructing the index, the range was typically suppressed to be only 7.5%. This was done both to save the state money and also because it was widely agreed that that the cost difference for education purposes was less than the 35-40% range of the wage data.

In the mid-1990s the legislature decided to gradually increase the range of the CDB factor from 7.5% to 18%. The phase-up of the index began in FY96 with an increase to 8.2% and was scheduled to be completed in FY04. The index was increased annually, reaching 13.8% in FY01. However, as part of the HB 94 funding changes in June 2001, the CDB factor was restored to its original 7.5% range in FY02. The index remained at 7.5% from FY02 through FY05 and was then lowered to 5.0% in FY06 and 2.5% on FY07 as part of HB 66 in June 2005. The CDB factor was then eliminated entirely in FY08.

While a number of issues had been raised over the years regarding the CDB factor, the most compelling were as follows:

1) The CDB factor favored urban counties at the expense of rural counties
2) The CDB factor treated all districts within a single county the same

Because the CDB factor was based upon regional wage rates it did indeed favor urban counties where wage levels are highest. School districts in rural counties may have difficulty attracting and retaining teachers because of their remote locations. However, because average wages in these areas are relatively low these districts would receive relatively little benefit from the CDB factor.

Similarly, some districts within counties would complain that their characteristics (i.e. high poverty) make it more difficult for them to attract and retain teachers and other staff members than is the case for other nearby districts, yet both have the same CDB factor applied.

These two examples show that the CDB factor was really misnamed – rather than being a comprehensive "cost-of-doing-business" adjustment, it was really only a regional wage adjustment (though the most sophisticated such adjustment in the country). In this regard, the CDB factor, though more limited than its name implied, was one example where Ohio's funding formula was ahead of that of many other states. *Rather than reacting to the limitation of the CDB factor by eliminating it, a preferable alternative would have been to maintain the CDB factor as a regional wage adjustment and then to add additional adjustments reflecting the costs of remoteness and high poverty on teacher recruitment and retention.*

C. Reliability

Four changes have been made to Ohio's school funding formula in the past 20 years to ameliorate the effects of HB 920:

1) When in place as part of the chargeoff computation, the use of "recognized value" spreads the effects of reappraisals or updates over three years. Beginning in FY14 with the adoption of the State Share Index, the use of 3 year average property valuation has a similar effect to that of recognized value.

2) Chargeoff Supplement Aid (aka "Gap Aid") in the first decade of this century guaranteed that the State would pay the difference if H.B. 920 reductions forced effective tax rates below the 23 mill chargeoff. Gap Aid was eliminated in the FY14 funding formula because the State Share Index was used instead of the chargeoff.

3) "Excess Cost Aid" allocated additional State aid to fund local share costs when they exceeded 3.3 mills. As a result, this aid served to offset some of the effect of lower local taxes. Excess Cost Aid was also not included in the FY14 and beyond funding formula. Initial analysis of FY14 and FY15 funding levels showed that a number of districts did

not have sufficient actual local revenue to pay for their presumed local share under the SSI. This issue requires further analysis.

4) In 1989 the legislature reestablished authority for local school districts to adopt voter-approved income taxes. Because the income tax is not subject to House Bill 920 this provides an additional source of growth in local revenues. However, only roughly one third (196 of 610 as of 2018) of Ohio school districts have been able to enact school district income taxes, and even in those districts that have, income revenues comprise only a small fraction of overall district expenditures.

1. Ohio's High Reliance on Local Operating Levies

While these changes have served to moderate some of the adverse effects of HB 920 on local revenue growth, the fundamental problem that many districts need to pass levies every 2-3 years merely to keep pace with inflation remains. Table 18 provides a summary of operating levy activity in Ohio since 1984.

Table 18: Summary of Operating Levies in Ohio, 1984-2017

Year	# of Operating Issues	# of Operating Issues Passing	% of Operating Issues Passing
1984	197	104	52.8%
1985	250	129	51.6%
1986	289	159	55.0%
1987	319	132	41.4%
1988	386	169	43.8%
1989	342	147	43.0%
1990	410	161	39.3%
1991	420	184	43.8%
1992	408	184	45.1%
1993	325	121	37.2%
1994	336	164	48.8%
1995	321	168	52.3%
1996	279	153	54.8%
1997	227	132	58.1%
1998	174	113	64.9%
1999	186	117	62.9%
2000	214	149	69.6%
2001	171	111	64.9%
2002	201	122	60.7%
2003	270	145	53.7%
2004	**435**	188	43.2%
2005	362	179	49.4%
2006	282	144	51.1%
2007	247	127	51.4%
2008	255	133	52.2%
2009	251	159	63.3%
2010	317	167	52.7%

Table 18: Summary of Operating Levies in Ohio, 1984-2017 (cont.)

2011	275	140	50.9%
2012	244	137	56.1%
2013	237	139	58.6%
2014	207	143	69.1%
2015	149	132	88.6%
2016	136	106	77.9%
2017	135	104	77.0%
Totals	**11,777**	**6,078**	**51.6%**
Averages	**280**	**145**	**51.6%**

Table 18 shows that from 1984 through 2017 there were an average of 280 operating levies per year in Ohio (these operating levy figures include all levies that are not bond, permanent improvement, other capital, or millage reduction levies). Roughly 50% of these levies have passed, however, ***no other state has nearly as many levies on the ballot as does Ohio.***

2. The Phase-Out of Tangible Personal Property Tax Replacement Payments

As mentioned earlier in this report, Ohio made a series of tax changed between 1999 and 2005 which resulted in a reduction of more than 2/3rd of Public Utility Tangible Personal Property (PUTPP) taxes relating to natural gas and electricity generation property the complete repeal of Ohio's general business Tangible Personal Property (TPP) tax from 2006-2009. These changes have significantly reduced local revenues (the elimination of TPP alone meant a roughly $1.1 billion reduction in local property tax revenue).

Table 19: Tangible Personal Property Replacement Payments, FY11-FY23

Fiscal Year	TPP Operating Replacement Payments ($ in millions)	# of Districts Receiving TPP Payments
FY11	$985.9	610
FY12	$651.8	421
FY13	$420.3	260
FY14	$420.3	260
FY15	$420.0	259
FY16	$281.7	202
FY17	$180.5	131
FY18	$142.4	101
FY19 (Est.)	*$111.3*	*81*
FY20 (Est.)	*$89.9*	*67*
FY21 (Est.)	*$72.5*	*55*
FY22 (Est.)	*$59.1*	*43*
FY23 (Est.)	*$47.6*	*40*

When HB66 was passed in 2005 the state made 2 promises to school districts:

1) Districts would be held harmless for their losses in TPP taxes through FY11
2) 70% of the Commercial Activity Tax would be dedicated to K-12 education in an unspecified manner

Table 19 shows that the phase-out of the TPP hold harmless replacement payments began in FY12 and continues now. After several different methods of determining the phase-out mechanism, this is now governed by SB 208 passed in 2016 which delineates that all districts will experience annual reductions in TPP replacement payments equivalent to $5/8^{th}$ of a mill for as long as it takes to eliminate the payments.

However, in both FY18 and FY19 only 15% of state Commercial Activity tax revenues are being directed to schools and this percentage is scheduled to fall as the TPP replacement payments diminish per SB 208. The state has completely reneged on the promise to devote 70% of CAT revenues to schools – instead this revenue is simply going into the state General Revenue Fund.

3. The Community School Deduction

The final issue impacting the reliability of Ohio school funding is Ohio's method of funding Community schools. Ohio's employs a rather unique system of funding community schools which is based upon a "deduction" method where community schools are first counted in the Formula ADM of traditional K-12 districts (formula ADM is the count of students used for state funding purposes) and then a deduction from each district's state aid is taken for each student who chooses to enroll in a community school. Most other states use a system of "direct funding" where community school students are funded directly by the state and not included at all in the student count of regular districts.

The main difference between the two methods of funding community schools is that Ohio's current deduction system is mathematically equivalent to having local tax dollars being used to support the funding of community school students. The reason of this is that local school districts in Ohio only receive a portion of funding for each student from the state (this share ranges from 90% in the poorest districts in the state down to 5% in the wealthiest districts), while the community school deduction amount is 100% of the state determined funding amount for each student. The amount of "local funding" following community students has been roughly 30% of total community school funding over the past several years

Table 20 below provides an overview of community school funding and enrollment over the 20-year period from FY1999-FY2018. The data contained in Table 20 has been collected from Ohio Department of Education school finance payment reports for both community schools and regular school districts. This report has been called the SF3, PASS, Bridge and SFPR report form over the years.

Table 20: Community School Deduction Amounts - FY99 through FY18

Fiscal Year	Community School Deduction Amount	STEM School Deduction	Total Comm. School + STEM School Deduction	Total Community & STEM School ADM	Brick & Mortar Community School ADM	E-School Formula ADM
FY99	$10,985,022	$0	$10,985,022	NA		
FY00	$51,658,903	$0	$51,658,903	NA		
FY01	$91,199,488	$0	$91,199,488	NA		
FY02	$138,941,700	$0	$138,941,700	23,626		
FY03	$203,733,492	$0	$203,733,492	33,978		
FY04	$301,139,480	$0	$301,139,480	46,938		
FY05	$421,736,138	$0	$421,736,138	62,603		
FY06	$481,559,416	$0	$481,559,416	71,838		
FY07	$530,582,459	$0	$530,582,459	76,932		
FY08	$584,929,196	$0	$584,929,196	82,643		
FY09	$646,504,551	$0	$646,504,551	88,536		
FY10	$679,872,827	$572,001	$680,444,828	93,821		
FY11	$721,951,120	$1,329,543	$723,280,663	99,844		
FY12	$774,404,507	$2,210,101	$776,614,608	108,448		
FY13	$824,421,026	$5,377,078	$829,798,104	116,530		
FY14	$901,588,051	$8,257,406	$909,845,457	128,393	86,070	42,323
FY15	$929,854,066	$11,548,272	$941,402,338	121,875	82,989	38,886
FY16	$926,885,616	$14,263,995	$941,149,611	119,272	81,397	37,875
FY17	$895,654,896	$17,369,398	$913,024,294	113,302	80,328	32,974
FY18	$864,134,265	$23,232,095	$887,366,360	108,552	81,645	29,607
Total	**$10,981,736,219**	**$84,159,889**	**$11,065,896,108**			

Source: Ohio Department of Education

Table 20 shows that in FY99 community school funding was roughly $11 million. By FY02 community school funding had increased by over 12.5 times to $139 million. In FY02 23,626 children were enrolled in community schools (note that FY02 was the first year that community school ADM was included on the SF3 payment form). Community school enrolment (and community school funding along with it) continued to increase annually from FY102 through FY14 where it reached a high water mark of 128,393 students. In FY18 current payment data shows that community school enrollment has decreased to 108,552 students.

The implication of the data in Table 20 is that Ohio's current method for funding community schools, which now costs nearly $900 million annually is disadvantageous to Ohio's K-12 school districts by virtue of effectively transferring local revenues to community schools.

Appendix B

Analysis of Changes in the Equity in Ohio School Funding FY91-FY19

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Ohio's school funding system has undergone significant changes since the *DeRolph* lawsuit was filed in 1991 and the system was ruled unconstitutional in March 1997. This report provides an assessment of the changes in the overall equity of Ohio's school funding system over that time period.

This report provides analysis of local and state operating revenues from FY91 through FY19 for 604 school districts (2 Lake Erie island districts with low student enrollment have been excluded as have 6 districts which either merged or became independent over the time frame of this study). Local revenues include property taxes for operating purposes (excluding bond and permanent improvement tax levy revenues) along with school district income taxes for operating purposes (again excluding permanent improvement income tax levies) and since 2012 revenue from casino taxes. State revenues include foundation formula funding along with state replacement payments for foregone Public Utility and general business Tangible Personal Property taxes (PUTTP and TPP, respectively) beginning in FY02.

Table 1 provides an overview of state and local operating revenues for K-12 education in FY91, FY98, FY99, FY09, FY18, and FY19. FY19 figures are estimated based on state aid from the FY19 July #1 ODE School Finance Report (SFPR), TY17 property tax revenues from the Ohio Department of Taxation, ODE estimates of FY19 TPP replacement payments and FY18 school district income tax and casino tax revenues.

Table 1: Total State and Local Funding, FY91, FY98, FY99, FY09, FY18, & FY19

Year	Local Tax Revenue	State Foundation Funding + TPP Replacement	Total State & Local Resources	% Increase in Funding	State Share of Funding
FY91	$3.904 Billion	$2.946 Billion	$6.850 Billion	--	43.0%
FY98	$5.959 Billion	$3.738 Billion	$9.697 Billion	41.6%	38.5%
FY99	$6.000 Billion	$4.257 Billion	$10.256 Billion	--	41.5%
FY09	$8.402 Billion	$7.288 Billion	$15.690 Billion	53.0%	46.5%
FY18	$10.444 Billion	$8.099 Billion	$18.543 Billion	18.2%	43.7%
FY19 Est.	*$10.671 Billion*	*$8.138 Billion*	*$18.809 Billion*	*19.9%**	*43.3%*

Source: All data used in this analysis is from the Ohio Legislative service Commission (LSC) , the Ohio Department of Education (ODE) and the Ohio Department of Taxation.

* FY19 % increase shown is from FY09 to FY19

Table 1 shows that overall state and local funding increased by 41.6% from FY91 to FY98[1] and by 53% from FY99 to FY09. However, funding has only increased by 18.2% from FY09 through FY18 and by 19.9% from FY09 to FY19. In FY91 the base foundation level was $2,636 per pupil and it increased to $3,851 in FY99, $5,732 in FY0, $6,010 in FY18, and $6,020 in FY19. The FY99 school year marked the first year of modified funding in the aftermath of the ruling.

Table 1 also shows that the state share of funding actually decreased from 43% in FY91 to 38.5% in FY98, before increasing to 41.5% in FY99 and to 46.5% in FY09. State funding was 43.7% of total state and local revenue in FY18 and is estimated to be 43.3% in FY19.

Table 2 provides similar data to Table 1, but on a per pupil basis.

Table 2: <u>Per Pupil</u> Total State and Local Funding, FY91, FY98, FY99, FY09, FY18 & FY19

Year	Formula ADM	Local Tax Revenue	State Foundation Funding + TPP Replacement	Total State & Local Resources	% Increase in Per Pupil Funding
FY91	1,536,146	$2,541	$1,918	$4,459	--
FY98	1,587,488	$3,754	$2,354	$6,108	37.0%
FY99	1,724,901	$3,478	$2,468	$5,946	--
FY09	1,674,172	$5,019	$4,353	$9,372	57.6%
FY18	1,660,662	$6,289	$4,877	$11,166	19.1%
FY19 Est.	*1,648,994*	*$6,471*	*$4,935*	*$11,406*	*21.7%**

* FY19 % increase shown is from FY09 to FY19

Table 2 shows local tax revenue increased from an average of $2,541 per pupil in FY91 to $3,754 in FY98, while state funding increased from an average of $1,918 per pupil in FY91 to $2,354 in FY98. Total state and local resources increased by 37.0% from FY91 to FY98. Table 2 also shows that local tax revenue per pupil increased from $3,478 in FY99 to an estimated $6,471 in FY19 while state revenue per pupil increased from $2,468 per pupil in FY99 to an estimated $4,935 per pupil in FY19. As was the case with the total funding levels shown in Table 1, the per pupil increase in state and local funding for K-12 education was largest from FY99 to FY09 (57.6% increase) and smallest from FY09 to FY19 (21.7%).

<u>Adjustment for Inflation</u>

[1] In this report, the years FY91-FY98 are analyzed separately from the years FY99-FY19. This is because prior to FY99, under "unit funding" career technical education and special education students were not counted in formula ADM. This makes per pupil amounts in the years prior to FY99 not directly comparable to per pupil amounts in years after FY99.

Tables 3 and 4 show the same data as in Tables 1 and 2, however, the data is adjusted for inflation using the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) measure. Inflation totaled 50.74% from FY99 through FY18, an annual average rate of 2.67% per year.

Table 3 shows that after adjusting for inflation total state and local resources increased by 17.2% from FY91 through FY98 rather than the 41.6% rate shown in Table 1. Similarly, total state and local resources increased by only 17.3% after accounting for inflation from FY99 through FY09, rather than the 53.0% increase shown in Table 1. Finally, the inflation adjusted increase in total state and local resources from FY09 to FY18 was only 2.2%, much lower than the 18.2% rate shown in Table 1, while the inflation adjusted increase in total state and local resources from FY09 to FY19 was only 3.7%, as compared to the 19.9% rate shown in Table 1. ***Also note that after adjusting for inflation, state expenditures actually declined (by -3.9%) from FY09 to FY18 and are estimated to remain below FY09 levels in FY19.***

Table 3: Inflation Adjusted State & Local Funding, FY91, FY98, FY99, FY09, FY18 & FY19

Year	Local Tax Revenue	State Foundation Funding + TPP Replacement	Total State & Local Resources	% Increase in Funding
FY91	$3.904 Billion	$2.946 Billion	$6.850 Billion	--
FY98	$4.932 Billion	$3.093 Billion	$8.025 Billion	17.2%
FY99	$6.000 Billion	$4.257 Billion	$10.256 Billion	--
FY09	$6.443 Billion	$5.589 Billion	$12.031 Billion	17.3%
FY18	$6.929 Billion	$5.373 Billion	$12.301 Billion	2.2%
FY19 Est.	*$7.079 Billion*	*$5.398 Billion*	*$12.477 Billion*	*3.7%**

* FY19 % increase shown is from FY09 to FY19

Table 4 provides similar data to Table 3, but on a per pupil basis.

Table 4: Per Pupil Inflation Adjusted State & Local Funding, FY91, FY98, FY99, FY09, FY18 & FY19

Year	Local Tax Revenue	% Incr. in Per Pupil Funding	State Aid + TPP Replacement	% Incr. in Per Pupil Funding	Total State & Local Resources	% Incr. in Per Pupil Funding
FY91	$2,541	--	$1,918	--	$4,459	--
FY98	$3,107	22.3%	$1,948	1.6%	$5,055	13.4%
FY99	$3,478	--	$2,468	--	$5,946	--
FY09	$3,849	10.7%	$3,338	35.3%	$7,186	20.9%
FY18	$4,172	8.4%	$3,235	-3.1%	$7,407	3.1%
FY19 Est.	*$4,293*	*11.5%*	*$3,274*	*-1.9%*	*$7,567*	*5.3%*

* FY19 % increase shown is from FY09 to FY19

The data shown in Table 4 follow a similar pattern to that shown in Table 3. Table 4 shows that after adjusting for inflation, per pupil state and local resources increased by 13.4% from FY91 through FY98 rather than the 37.0% rate shown in Table 2. Similarly, per pupil state and local resources increased by only 20.9% from FY99 through FY09 after accounting for inflation, rather than the 57.6% increase shown in Table 2. Finally, the inflation adjusted increase in per pupil state and local resources from FY09 to FY18 was only 3.1%, much lower than the 19.1% rate shown in Table 2, while the inflation adjusted increase in per pupil total state and local resources from FY09 to FY19 was only 5.3%, as compared to the 21.7% rate shown in Table 2. ***Also note that after adjusting for inflation, per pupil state expenditures actually declined (by -3.1%) from FY09 to FY18 and are estimated to remain below FY09 levels in FY19.***

Analysis of the Equity of Ohio's K-12 Funding System

While the data shown in Tables 1-4 provide a useful overview of how funding for K-12 education in Ohio has changed at both the state and local level over the past 27 years, this data does not shed much light on how these funds have been distributed across Ohio's 600+ local school districts over this time span. This section of the report provides several different measures to analyze the equity of school funding in Ohio.

A. Comparison of 5th and 95th Percentiles

One common measure of equity is to compare the 5th and 95th percentile values. This is often referred to as the "Federal range" and is expressed as a difference or a ratio. The value of this measure is to show how the difference between low and high values after eliminating the top and bottom 5% (which can be considered to be "outliers"). By this measure, the smaller the gap in funding between the 5th and 95th percentile school districts, the better the equity of the funding system.

Table 5: Comparison of 5th Percentile to 95th Percentile; FY99, FY09, FY18 & FY19 (All $ Amounts Adjusted for Inflation)

Year	5th Percentile State and Local Funding Per Pupil	95th Percentile State and Local Funding Per Pupil	Federal Range Ratio (95th % / 5th %)	Federal Range (95th % - 5th %)
FY99	$4,631	$7,507	1.62	$2,876
FY09	$5,766	$9,130	1.58	$3,365
FY18	$5,892	$9,653	1.64	$3,761
FY19 (Est.)	*$6,045*	*$9,968*	*1.65*	*$3,923*

Table 5 shows that in FY99 the district at the 5th percentile in state and local K-12 resources per pupil (the 30th lowest district) had $4,631 per pupil at its disposal. At the same time, the district at the 95th percentile (the 574th – or 30h highest district) had $7,507 per pupil at its disposal. By FY18, the 5th percentile district had inflation-adjusted state and local resources of $5,892 per pupil and the 95th percentile district had inflation-adjusted total resources of $9,653 per pupil.

There are two simple ways to examine the figures shown in Table 5 to assess whether equity has improved or not over the FY99-FY19 time frame. The first is to compute the ratio of per pupil revenues at the 95th and 5th percentiles (this is known as the Federal Range Ratio). The federal range ratio of 1.62 in FY99 indicates that the 95th percentile school district had 62% more resources than the 5th percentile school district. In percentage terms, the funding gap between the 5th and 95th percentile school districts in Ohio decreased to 58% in FY99 before increasing to 64% in FY18 an estimated 65% in FY19. *By this measure, equity increased in the first 10-year period since the DeRolph decision and then slightly worsened over the 2nd 10 years since the DeRolph decision.*

The second method of examining the change in equity between the 5th and 95th percentile districts is to simply see whether the range between the 5th and 95th percentile districts has gotten larger or smaller in terms of dollars. By this measure, Table 5 clearly shows that equity in Ohio's funding system has decreased steadily since FY99 as the funding gap (after adjusting for inflation) between the 5th and 9th percentile school districts has increased from $2,876 per pupil in FY99 to $3,365 in FY09, to $3,761 in FY18 and finally to an estimated $3,923 per pupil in FY19.

B. Coefficient of Variation and McLoone Index

One drawback of the federal range and federal range ratio approach to examining equity is that it is based on only 2 data points (the 5th and 95th percentile values). The Coefficient of Variation is an equity measures that is based on all of the observations in a data set, while the McLoone Index is based on an analysis of the extent to which the bottom half of the distribution differs from the median (midpoint) value. These equity measures are shown in Table 6.

Table 6: Coefficient of Variation and McLoone Index; FY99, FY09, FY18 & FY19 (All $ Amounts Adjusted for Inflation)

Year	Mean	Standard Deviation	Coefficient of Variation (Std Dev / Mean	Median	McLoone Index (% of Funding vs Median)
FY99	$5,946	$1,122	0.189	$5,301	0.94
FY09	$7,186	$1,266	0.176	$6,630	0.92
FY18	$7,407	$1,321	0.178	$7,306	0.90
FY19 (Est.)	*$7,566*	*$1,354*	*0.179*	*$7,405*	*0.90*

The coefficient of variation is the ratio of the standard deviation to the mean (average) of a data set. In this context of school funding, the coefficient of variation compares how widely school funding varies across Ohio's school districts (this is measured by the standard deviation) and compares it to the average funding level. If equity were perfect and all districts received the same funding per pupil, then the standard deviation would be zero as would the coefficient of variation. Thus a lower value for the coefficient of variation means greater equity. Table 6 shows that the coefficient of variation decreased

from FY99 to FY09, before increasing slightly in FY18 and FY19. *By this measure equity improved in the 1st 10 years after the DeRolph decision before becoming a bit more inequitable in the 2nd 10 years after the DeRolph decision.*
The McLoone index is a measure of inequity among the school districts that are in the bottom half of total resources[2]. It computes the ratio of their actual funding to what their funding would be if all were funding at the median per pupil level. If the bottom half of the school districts had no resources at all the McLoone Index would be zero and if all districts had the same resources, the McLoone Index would be 1. Thus when using the McLoone index, a higher value means more equity. Table 6 shows that equity as measured by the McLoone Index has decreased from FY99 to FY09 and then again in FY18 and FY19. This means that *the school districts below the median have moved farther away from the median in terms of total state and local resource level from FY99 to FY19*. This finding is consistent with the finding in Table 5 that the gap between the 5th and 95th school districts has increased in dollar terms over the same time frame.

C. Property Wealth Quintile Analysis

While the various equity measures discussed immediately above reflect different statistical methods of examining the equity of Ohio's school funding system from FY99 to FY19 a more direct – and perhaps more intuitive – approach is to sort Ohio's 600+ school districts into 5 groups (or "quintiles") and to examine the level of resources in each quintile over time[3].

Tables 7-9 provide an overview of the inflation–adjusted changes in local, state and state + local funding from FY99 through FY19.

Table 7 shows that in $ terms the poorest fifth of Ohio school districts (Quintile 1) actually experienced a $54 per pupil decrease in local tax revenues after inflation is taken into account from FY99 to FY19, while the wealthiest districts (Quintile 5) received an average increase of $1,438 in local tax revenues. *In percentage terms, the poorest group of school districts showed a -2.3% decrease in per pupil local tax revenues while the other 4 quintiles all experienced average increases in per pupil local revenues of 20-28% after inflation is adjusted for.*

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[2] For the purposes of the McLoone Index the "bottom half of school districts" is defined as the group of low-wealth school districts whose total number of students is one half of the total number if students in that year.

[3] For the purposes of this report, the wealth quintiles have been defined so that each contains an equal number of school districts. In addition, the quintiles used in this report are based on an average of FY99 and FY18 property wealth per pupil. This was done in order to control for the changes in property wealth that have occurred since FY99 as a result of changes in the taxation of business and public utility tangible personal property, the impact of oil and natural gas exploration, fluctuations in CAUV values, and the impact of the 2008-2009 recession on home values.

Table 7: Per Pupil Local Tax Revenues; FY99, FY09 & FY19 (All $ Amounts Adjusted for Inflation)

Wealth Quintile	FY99	FY09 (Inflation Adjusted)	FY19 (Inflation Adjusted)	Inflation Adj. $ Increase FY99 to FY19	Inflation Adj. % Increase FY99 to FY19
1	$2,393	$2,310	$2,339	($54)	-2.3%
2	$2,569	$2,794	$3,188	$619	24.1%
3	$3,240	$3,559	$3,884	$644	19.9%
4	$3,940	$4,390	$5,048	$1,108	28.1%
5	$5,306	$5,987	$6,744	$1,438	27.1%
State Avg.	**$3,478**	**$3,849**	**$4,293**	**$815**	**23.4%**

Table 8 shows that Ohio's poorest school districts (Q1) actually received the largest average increase in inflation-adjusted state aid in both dollars ($1,830 per pupil) and percentage (50.3%) terms from FY99 to FY19. By contrast, the wealthiest school districts (Q5) received an average inflation-adjusted increase in state aid of $230 per pupil and average percentage increase of 18.9% from FY99 to FY19.

Table 8: Per Pupil State Funding; FY99, FY09 & FY19 (All $ Amounts Adjusted for Inflation)

Wealth Quintile	FY99	FY09 (Inflation Adjusted)	FY19 (Inflation Adjusted)	Inflation Adj. $ Increase FY99 to FY19	Inflation Adj. % Increase FY99 to FY19
1	$3,639	$4,970	$5,469	$1,830	50.3%
2	$2,750	$3,812	$3,922	$1,172	42.6%
3	$2,424	$3,188	$3,042	$618	25.5%
4	$2,040	$2,762	$2,523	$483	23.7%
5	$1,218	$1,913	$1,448	$230	18.9%
State Avg.	**$2,468**	**$3,338**	**$3,274**	**$806**	**32.6%**

Table 9 shows that when state and local resources are combined, the poorest school districts (Q1) received 29.4% increase in inflation-adjusted total resources per pupil from FY99 to FY19, while the wealthiest school districts (Q5) received a slightly smaller 25.6% increase in inflation-adjusted total resources per pupil over the same time frame. The pattern is similar when looked at in dollar terms, with the poorest districts (Q1) receiving an inflation-adjusted average increase of $1,775 per pupil in total state and local resources, while the wealthiest districts (Q5) received a $1,668 per pupil average increase after inflation is taken into account. Furthermore, the school districts in quintiles 2 and 3, which began the period with the lowest average total state and local resources remain in that position in FY19. This disparity is particularly for the middle wealth districts (Q3) as they received the smallest average increase and are now even further behind the wealthiest districts than they were in FY99.

Table 9: Per Pupil State & Local Resources; FY99, FY09 & FY19 (All $ Amounts Adjusted for Inflation)

Wealth Quintile	FY99	FY09 (Inflation Adjusted)	FY19 (Inflation Adjusted)	Inflation Adj. $ Increase FY99 to FY19	Inflation Adj. % Increase FY99 to FY19
1	$6,033	$7,281	$7,808	$1,775	29.4%
2	$5,319	$6,606	$7,109	$1,790	33.7%
3	$5,664	$6,747	$6,925	$1,261	22.3%
4	$5,980	$7,152	$7,571	$1,591	26.6%
5	$6,524	$7,900	$8,192	$1,668	25.6%
State Avg.	**$5,946**	**$7,186**	**$7,567**	**$1,621**	**27.3%**

Tables 10-12 provide a more detailed look at the change in equity of Ohio school funding from FY99-FY18. The tables take the inflation-adjusted data in tables 7-9 and show the $ and % changes in each of the two 10-year time periods since the *DeRolph* ruling (FY99-09 & FY09-19).

Table 10: Change in Local Tax Revenues; FY99-FY09, FY09-FY19

Wealth Quintile	Infl. Adj $ Increase FY99 to FY09	Infl. Adj $ Increase FY09 to FY19	Infl. Adj % Increase FY99 to FY09	Infl. Adj % Increase FY09 to FY19
1	($83)	$29	-3.5%	1.2%
2	$225	$393	8.8%	14.1%
3	$319	$324	9.9%	9.1%
4	$450	$658	11.4%	15.0%
5	$681	$756	12.8%	12.6%
State Avg.	**$371**	**$444**	**10.7%**	**11.5%**

Table 11: Change in State Resources; FY99-FY09, FY09-FY19

Wealth Quintile	Infl. Adj $ Increase FY99 to FY09	Infl. Adj $ Increase FY09 to FY19	Infl. Adj % Increase FY99 to FY09	Infl. Adj % Increase FY09 to FY19
1	$1,331	$498	36.6%	10.0%
2	$1,062	$110	38.6%	2.9%
3	$764	($146)	31.5%	-4.6%
4	$722	($239)	35.4%	-8.7%
5	$695	($465)	57.1%	-24.3%
State Avg.	**$870**	**($64)**	**35.2%**	**-1.9%**

Table 12: Change in State + Local Resources; FY99-FY09, FY09-FY19

Wealth Quintile	Infl. Adj. $ Increase FY99 to FY09	Infl. Adj $ Increase FY09 to FY19	Infl. Adj % Increase FY99 to FY09	Infl. Adj % Increase FY09 to FY19
1	$1,248	$527	20.7%	7.2%
2	$1,287	$503	24.2%	7.6%
3	$1,083	$178	19.1%	2.6%
4	$1,172	$419	19.6%	5.9%
5	$1,376	$291	21.1%	3.7%
State Avg.	**$1,240**	**$380**	**20.9%**	**5.3%**

There are several key findings that can be derived from the data shown in Table 10-12.

- First, there is a pronounced trend in each of the two 10-year periods after *DeRolph* showing that the largest increases in local revenues were in the wealthiest school districts, while the smallest increases were in the poorest school districts (with Quintile 1 actually showing an inflation-adjusted decrease in local revenue from FY99 to FY09).
- Second, there is a very stark difference in the pattern of state aid from FY99 to FY09 vs. that from FY09 to FY19. From FY99 to FY09 the inflation adjusted state average increase in per pupil state resources was $870 per pupil, while there was a -$64 pupil inflation-adjusted decrease in state resources per pupil during the FY09 to FY19 time frame. In both time frames lower wealth school districts received larger Increases than did wealthier districts (although the Quintile 5 percentage increase from FY99-FY09 was higher than that of less wealthy districts due to the lower starting base level of funding).
- Finally, in terms of total state and local resources, Table 12 shows that in both dollar and percentage terms the first 10 years after the *DeRolph* ruling was responsible for the bulk of the increase in total resources apparent since FY99.

Table 13 below provides a final perspective on the extent to which the distribution of resources among Ohio's 600+ school districts has change since the *DeRolph* ruling. From FY99 through FY19, the share of total resources directed to the lowest wealth school districts has fallen from 26.4% in FY99 to 24.1% in FY19. Meanwhile the share of total resources directed to the highest wealth school districts has increased from 22.2% in FY99 to 23.4% in FY19. At the same time, districts in quintiles 2 and 3 have seen very little change in the share of total resources that they receive and continue to receive a share of total resources that is lower than the percentage of total students that they educate.

Table 13: Share of State and Local Resources by Wealth Quintile

Quintile	FY19 # of Students	FY19 % of Students	FY99 % of S+L Resources	FY09 % of S+L Resources	FY19 % of S+L Resources	FY17 ODE Tax Effort
1	378,439	22.9%	26.4%	24.0%	24.1%	1.07
2	246,858	15.0%	13.6%	13.9%	14.0%	1.10
3	320,258	19.4%	17.5%	17.5%	17.7%	0.99
4	342,340	20.8%	20.3%	20.8%	20.7%	0.92
5	361,098	21.9%	22.2%	23.8%	23.4%	0.81
Total	**1,648,994**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**--**

Table 13 also shows the average tax effort for the districts in each wealth quintile. The wealthiest (Q5) school districts have the lowest tax effort by the measure, while the two lowest wealth quintiles have the highest tax effort.

D. Conclusions and Summary of Key Findings

1) Total state and local operating revenue increased by 83.4% from FY99 through FY19. However, once inflation is factored in, the net increase in state and local revenue is only 21.7%, or an average of 1.1% annually.
2) On a per pupil basis, the results are similar, showing a 91.8% increase from FY99 to FY09 falling to a 27.3% increase once inflation is taken into account. That is an average 1.4% annual increase in per pupil state and local revenues from FY99 through FY19.
3) On a per pupil basis, inflation adjusted state revenues increased by 35.3% from FY99 to FY09, but have decreased by -1.9% from FY09 to FY19.
4) Similarly, inflation-adjusted per pupil state and local revenues increased by 20.9% from FY99 to FY09, but have increased by only 5.3% from FY09 to FY19.
5) Viewed from another perspective, the lowest wealth (Q1) districts have seen their share of total state and local resources fall from 26.4% in Fy99 to 24.1% in Fyt19, while the highest wealth (Q5) school districts have seen their share of total state and local resources increase from 22.2% in FY99 to 23.4% in FY19.
6) Unsurprisingly, given the above five points, a variety of equity measures indicate that equity in state and local school operating revenues improved from FY99 to FY09, but regressed somewhat from FY09 to FY19.

Analysis of property wealth quintiles provided additional insights into the distribution of local, state, and combine state and local revenues from FY99 through FY19.

7) Inflation adjusted local revenues increased an average of roughly 20-28% for the 4 wealthiest groups of school districts from FY99-FY19, however for the poorest quintile of school districts inflation adjusted local revenues actually decreased from FY99 through FY19.

8) The opposite trend was true with state revenues, as the lowest wealth school districts (Q1) experienced an inflation-adjusted increase of 50.3% while the wealthiest districts received an increase of 18.9% in per pupil state revenues.

9) When the total change in combined state plus local revenues is examined, the lowest wealth quintile 1 school districts received an inflation-adjusted increase of 29.4% while the wealthiest (quintile 5) school districts received an inflation-adjusted increase of 25.8%.

10) In $ terms this amounts to an inflation adjusted difference of only $107 per pupil between the increase in revenues received by the lowest wealth school districts ($1,775 per pupil) versus the increase received by the wealthiest districts ($1,668 per pupil). ***This relatively small gap explains why the improvement in school funding equity since DeRolph has been so modest***.