Analysis of FY17 Ohio School District Report Card Data and Related Issues

Presentation to Task Force on Education and Poverty

Dr. Howard Fleeter

Ohio Education Policy Institute

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OEPI Analysis of School District Report Card Data

- For the past several years OEPI has analyzed report card data looking particularly at the relationship between educational outcomes and district socioeconomics.
- The results of this analysis have consistently shown that test performance is highly and negatively correlated with poverty.
- The analysis has also consistently shown a persistent achievement gap between economically-disadvantaged and non-disadvantaged students.

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OEPI Analysis of School District Report Card Data

- Our studies are far from the first to uncover these relationships. The link between socioeconomics and student performance was first noted in the landmark Coleman Report in 1966.
- It is also imperative to note that our analysis should NOT be interpreted as indicating that low-income or minority students cannot learn or that the schools and districts that serve these students are "bad" schools.
- Rather, our findings are intended to highlight the challenges faced by low-income students and the schools that serve them, as well as the critical need facing Ohio policymakers to effectively address this issue.

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A. Performance Index

- The Performance Index (PI) is a comprehensive measure of the performance of Ohio's students on the standardized tests administered in grades 3 through high school.
- The PI takes into account the performance of all students in a district at the different performance levels (Advanced Plus, Advanced, Accelerated, Proficient, Basic, and Limited), rather than just showing the number or percent of students who achieve proficiency.
- OEPI analysis compares Performance Index scores to the percent of economically disadvantaged students (generally those at or below 185% of Federal Poverty Level) in each district.

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FY17 Performance Index vs. % of Economically Disadvantaged Students

FY17 Performance Index Range	# of Districts	Total ADM	% Economically Disadvantaged Students
Performance Index between 50 and 70	27	309,168	87.4%
Performance Index between 70 and 80	60	188,764	73.1%
Performance Index between 80 and 85	86	203,215	57.9%
Performance Index between 85 and 90	152	293,636	43.8%
Performance Index between 90 and 95	137	301,286	35.0%
Performance Index between 95 and 100	80	234,358	23.1%
Performance Index greater than 100	65	179,024	12.6%
Statewide Total	**607**	**1,709,452**	

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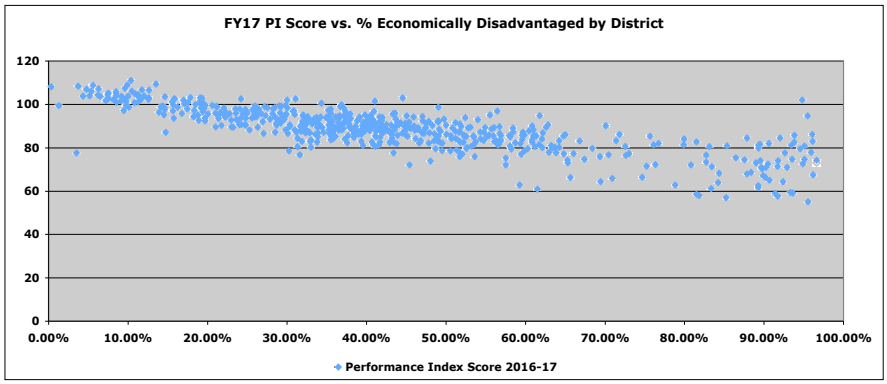
FY17 Performance Index vs. % of Economically Disadvantaged Students



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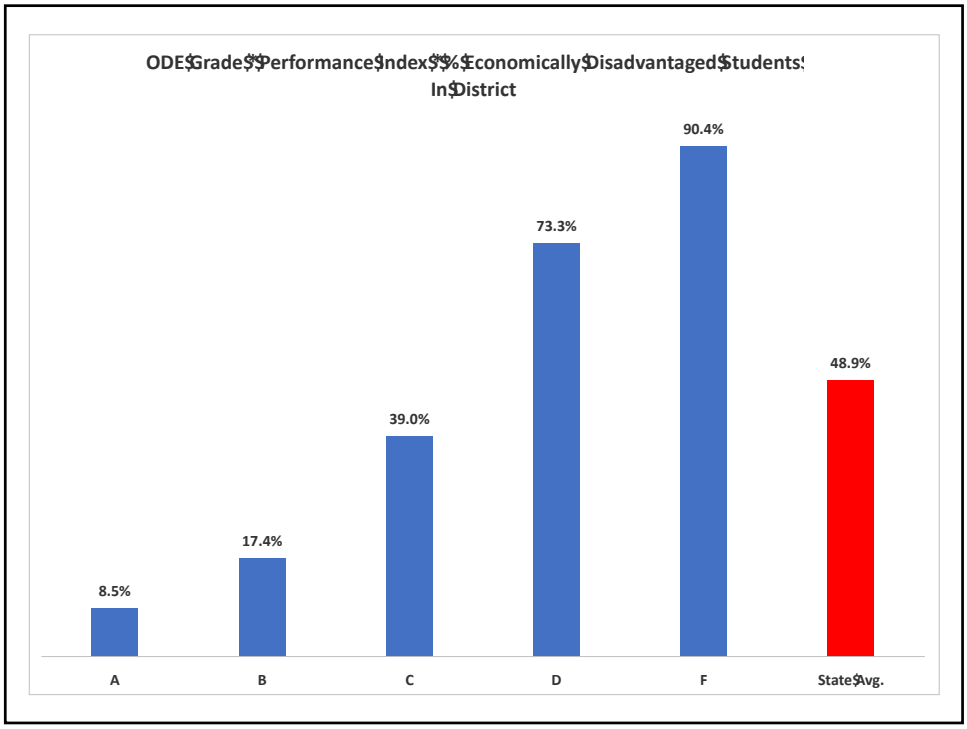
ODE Grade - Performance Index - % Economically Disadvantaged Students In District
8.5%
17.4%
39.0%
73.3%
90.4%
48.9%
A
B
C
D
F
State Avg.

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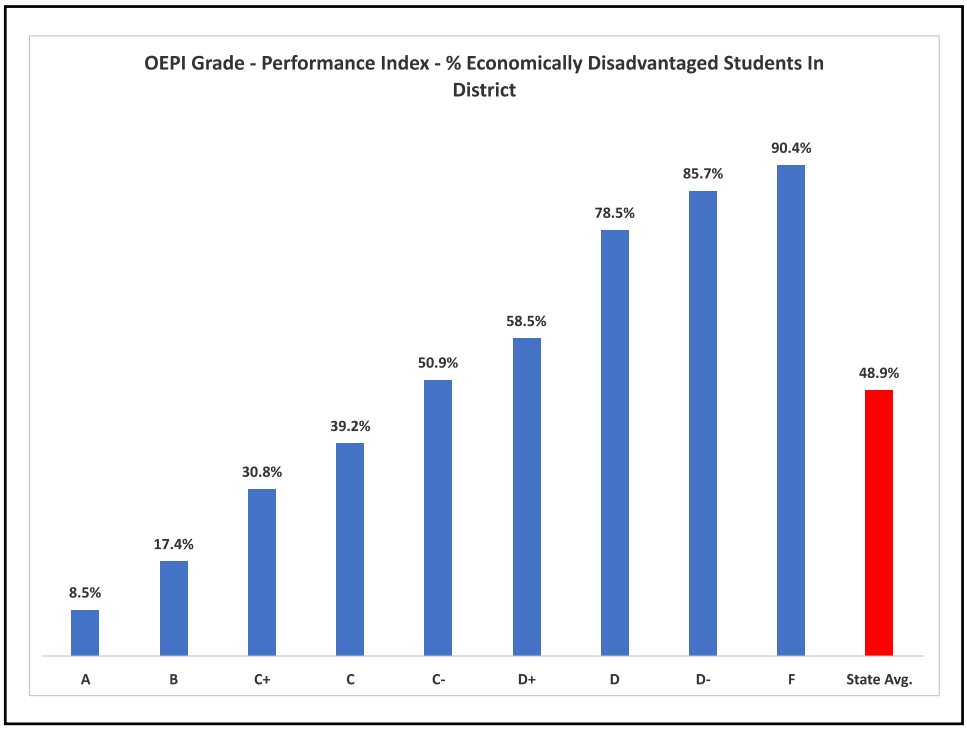
OEPI Grade - Performance Index - % Economically Disadvantaged Students In District
8.5%
17.4%
30.8%
39.2%
50.9%
58.5%
78.5%
85.7%
90.4%
48.9%
A
B
C+
C
C-
D+
D
D-
F
State Avg.

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Main Findings: PI Scores vs. % of Economically Disadvantaged Students

1. Despite the fact that performance index scores increased in 572 of 607 school districts from FY16 to FY17, the achievement gap between high poverty and low poverty districts remains persistent and dramatic.
2. Of the lowest 100 performing districts on performance index score, ***89 of them are above the statewide average*** of economically disadvantaged students.
3. 55 of those districts have economically disadvantaged levels of 70% or higher.
4. Of the top 100 districts based on performance index score, ***99 districts are below the 48.9% statewide average*** of economically disadvantaged students.
5. 88 of those districts have economically disadvantaged levels of less than 30%.

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Main Findings: PI Scores vs. % of Economically Disadvantaged Students

6. The lowest performing school districts in Ohio according to the Performance Index have nearly 7 times as many economically disadvantaged students on average than do the highest performing districts in the state (top and bottom 65 districts).
7. 124 districts received a grade of A or B on the Performance index in FY17. **Only 2** of these districts have more than the state average percentage of economically disadvantaged students (48.9%). Another 5 districts have between 40% and 50% econ. disadvantaged students.
8. Meanwhile, 77 of these 124 high performing districts (62%) have fewer than 20% economically disadvantaged students.
9. Districts receiving an F on the Performance index have more than 10 times the percentage of economically disadvantaged students than do the districts receiving an A on the Performance Index.

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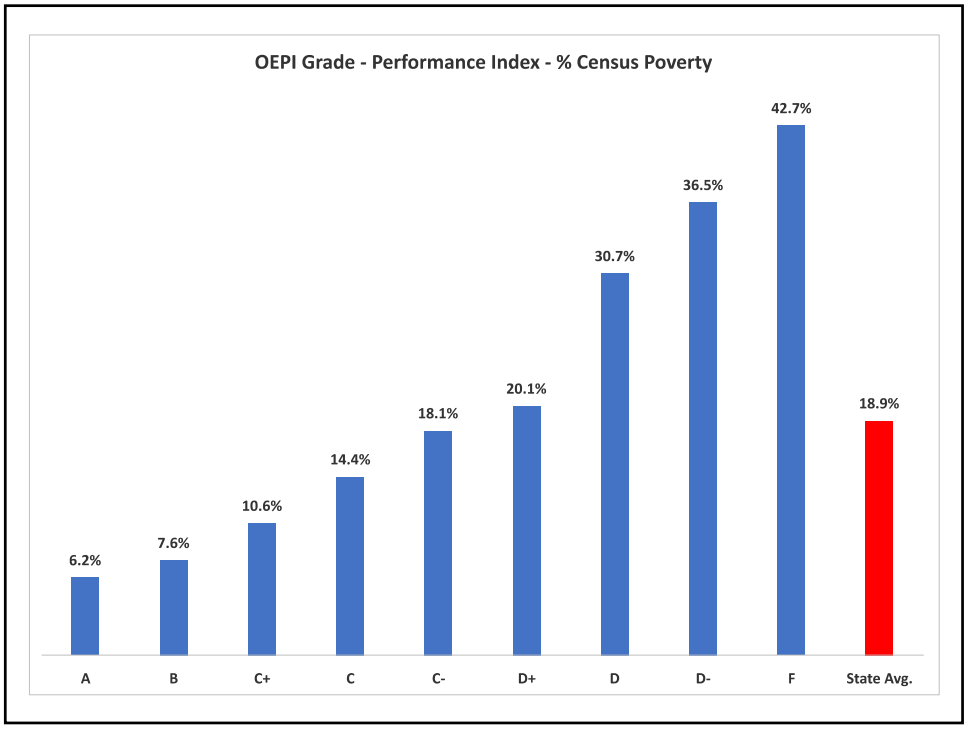
OEPI Grade - Performance Index - % Census Poverty
6.2%
7.6%
10.6%
14.4%
18.1%
20.1%
30.7%
36.5%
42.7%
18.9%
A
B
C+
C
C-
D+
D
D-
F
State Avg.

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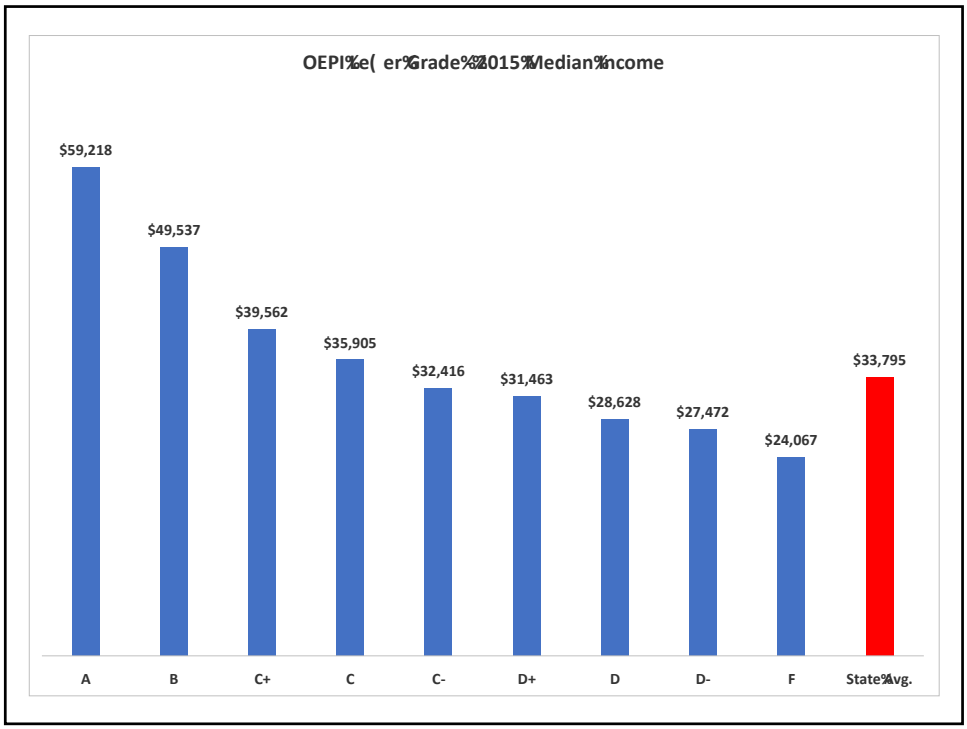
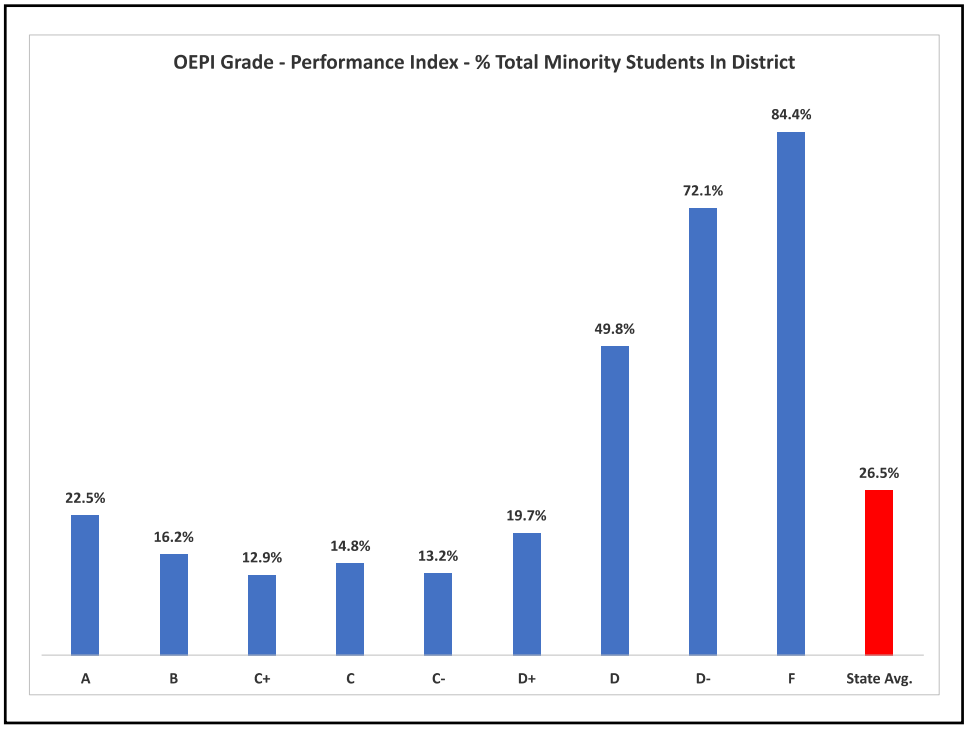

$59,218
$49,537
$39,562
$35,905
$32,416
$31,463
$28,628
$27,472
$24,067
$33,795
A
B
C+
C
C-
D+
D
D-
F

12


OEPI Grade - Performance Index - % Total Minority Students In District
22.5%
16.2%
12.9%
14.8%
13.2%
19.7%
49.8%
72.1%
84.4%
26.5%
A
B
C+
C
C-
D+
D
D-
F
State Avg.

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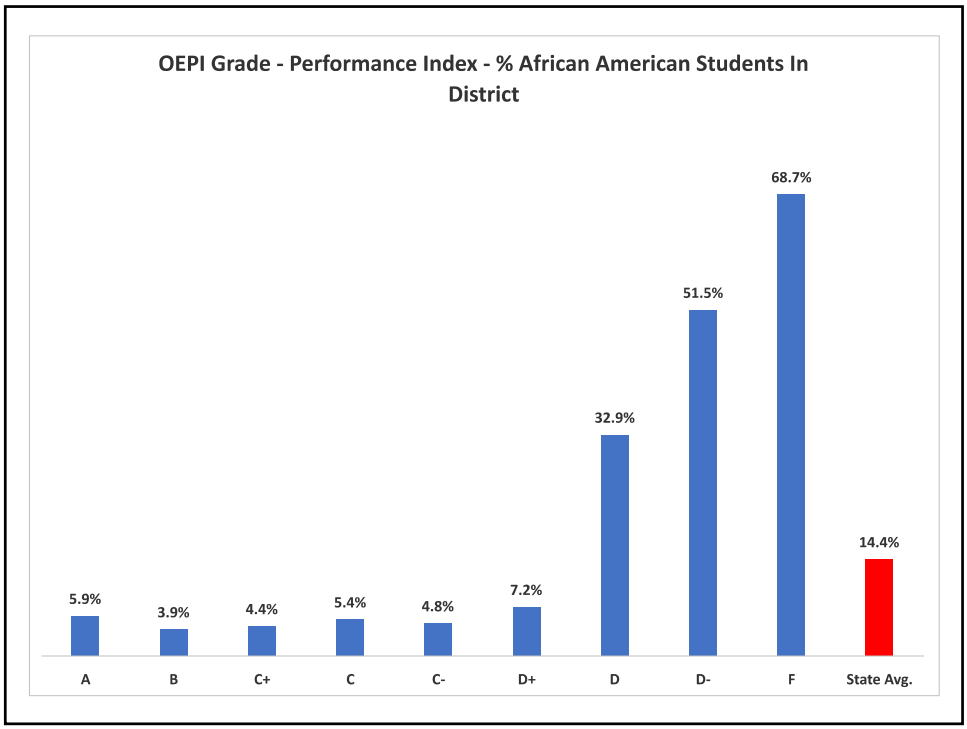
OEPI Grade - Performance Index - % African American Students In District
5.9%
3.9%
4.4%
5.4%
4.8%
7.2%
32.9%
51.5%
68.7%
14.4%
A
B
C+
C
C-
D+
D
D-
F
State Avg.

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Additional Findings Relating to the Performance Index & Socioeconomics

10. Districts receiving an F on the Performance index have nearly 7 times the percentage of students in poverty (at or below 100% of Federal poverty level) than do the districts receiving an A on the Performance Index.
11. Districts receiving an A or B on the Performance index have more than double the median income than do the districts receiving an F on the Performance Index. 92 of the top 100 districts on the performance index are above the statewide median income of $33,795.
12. Districts receiving a D or F on the Performance index have more than 3 times the percentage of minority students as do the districts receiving an A, B, or C on the Performance Index.
13. At 32.2%, districts receiving a D or F on the Performance index have nearly 7 times the percentage of African American students as do the districts receiving an A, B, or C on the Performance Index (4.7%).

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B. Prepared for Success Measures

The Prepared for Success measures include the following college and career readiness components:

- % of high school students participating in ACT
- % of high school students scoring remediation free on ACT
- % of high school students participating in SAT
- % of high school students scoring remediation free on SAT
- % of high school students graduating with an Honors diploma
- % of high school students graduating with an industry-recognized credential
- % of high school students participating in one or more AP courses
- % of high school students receiving an AP score of three or higher
- % of high school students participating in one or more International Baccalaureate (IB) courses
- % of high school students receiving an IB score of four or higher
- % of high school students with at least three Dual Enrollment (college) credits

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FY17 Prepared for Success Percentage vs. %Economically Disadvantaged Students

Prepared for Success Percentage Range	# of Districts	% Economically Disadvantaged Students	Average PI Score
Prepared for Success Percent < 25%	91	81.6%	68.5
Prepared for Success % between 25 and 30	86	61.5%	82.2
Prepared for Success % between 30 and 35	81	50.1%	85.9
Prepared for Success % between 35 and 45	154	40.8%	89.9
Prepared for Success % between 45 and 55	90	31.1%	93.4
Prepared for Success % between 55 and 65	53	22.4%	96.2
Performance Index greater than 65%	52	11.1%	102.4
Statewide Total	**607**		

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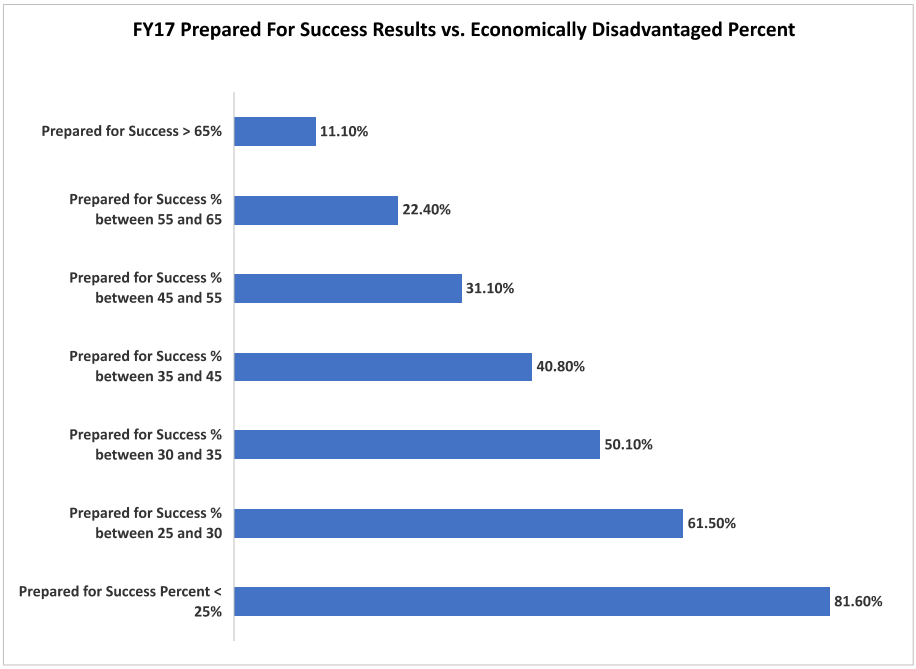

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Findings Relating to Prepared for Success Measures

1. 119 fewer districts received a grade of C on Prepared for Success in FY17 than in FY16, while 123 more districts received Prepared for Success grades of D and F in FY17.
2. The lowest performing school districts in Ohio according to the Prepared for Success measures (districts less than 25% of students PFS) have nearly 8 times as many economically disadvantaged students on average than do the highest performing districts in the state (districts with more than 65% of students PFS).

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C. Test Results by Demographic Group

- OEPI has also analyzed the FY17 Report Card data by student demographic group instead of by district.
- The following slides provide a comparison of the performance of economically disadvantaged and non-disadvantaged students on Ohio's 3rd-8th grade through proficiency tests and on the high school end-of-course exams.
- The graphs compare the percentage of disadvantaged and non-disadvantaged students that achieve a level of proficiency or better on each test.
- The graphs show a pronounced achievement gap on every test in every grade. ***On 20 of the 26 tests the difference in proficiency rates between disadvantaged and non-disadvantaged students is 30 percentage points or more***.

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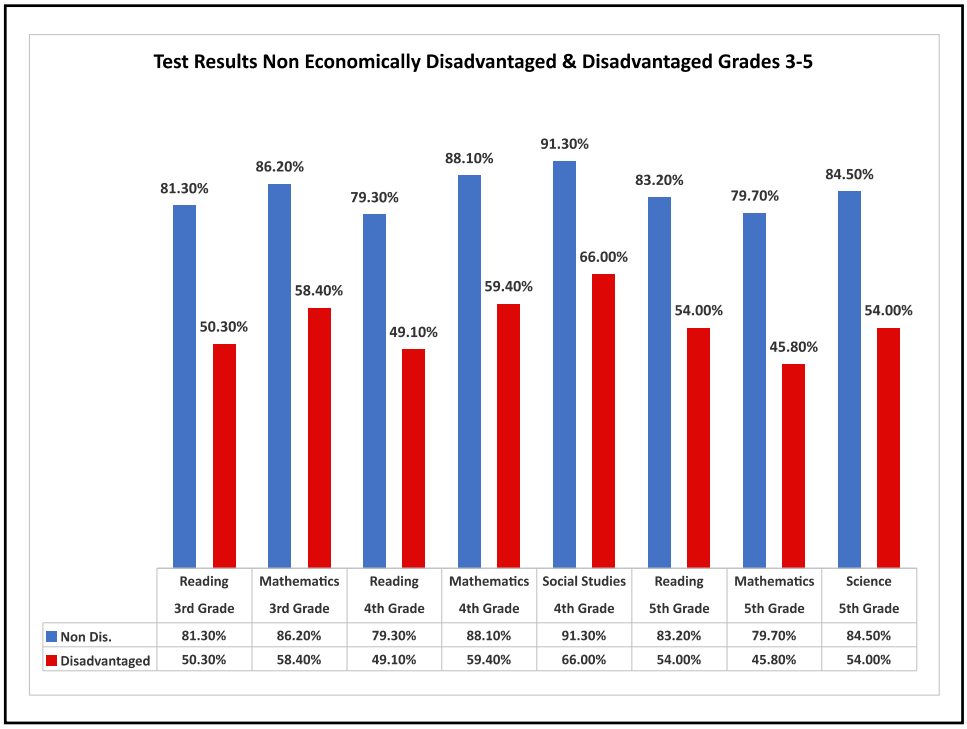
Test Results Non Economically Disadvantaged & Disadvantaged Grades 3-5
81.30%
50.30%
86.20%
58.40%
79.30%
49.10%
88.10%
59.40%
91.30%
66.00%
83.20%
54.00%
79.70%
45.80%
84.50%
54.00%
Reading 3rd Grade
Mathematics 3rd Grade
Reading 4th Grade
Mathematics 4th Grade
Social Studies 4th Grade
Reading 5th Grade
Mathematics 5th Grade
Science 5th Grade
Non Dis. 81.30% 86.20% 79.30% 88.10% 91.30% 83.20% 79.70% 84.50%
Disadvantaged 50.30% 58.40% 49.10% 59.40% 66.00% 54.00% 45.80% 54.00%

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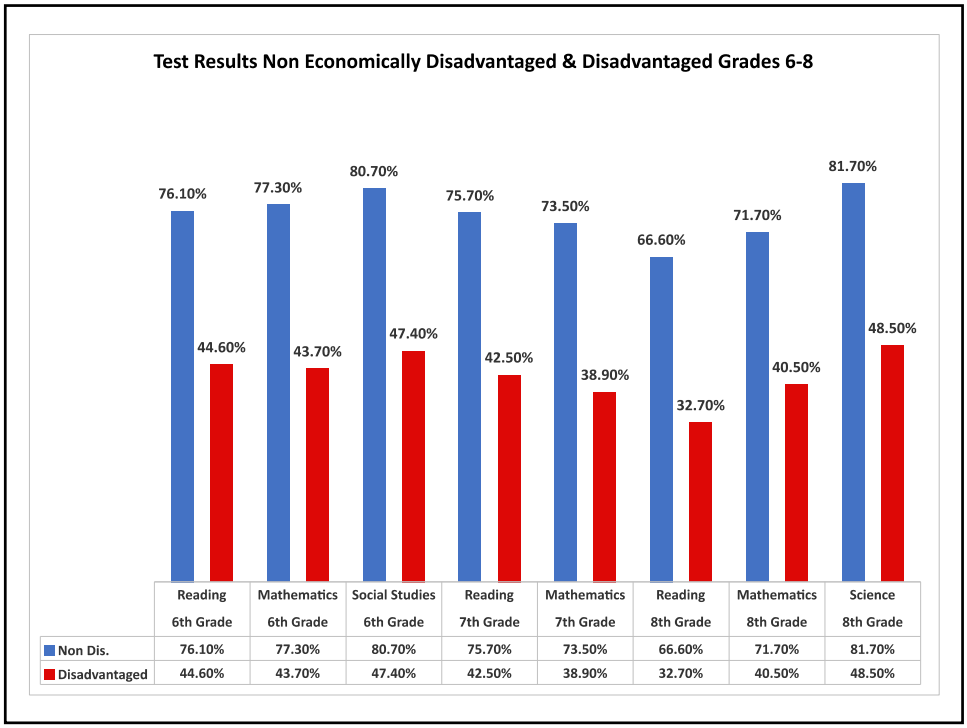
Test Results Non Economically Disadvantaged & Disadvantaged Grades 6-8
76.10%
44.60%
77.30%
43.70%
80.70%
47.40%
75.70%
42.50%
73.50%
38.90%
66.60%
32.70%
71.70%
40.50%
81.70%
48.50%
Reading 6th Grade
Mathematics 6th Grade
Social Studies 6th Grade
Reading 7th Grade
Mathematics 7th Grade
Reading 8th Grade
Mathematics 8th Grade
Science 8th Grade
Non Dis. 76.10% 77.30% 80.70% 75.70% 73.50% 66.60% 71.70% 81.70%
Disadvantaged 44.60% 43.70% 47.40% 42.50% 38.90% 32.70% 40.50% 48.50%

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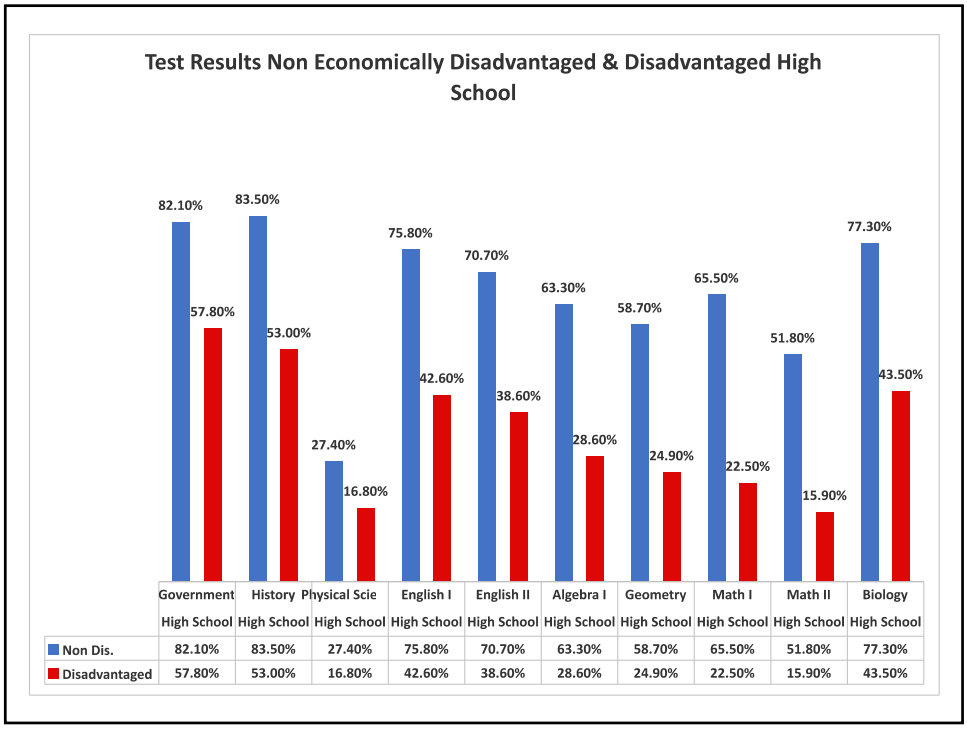
Test Results Non Economically Disadvantaged & Disadvantaged High School
82.10%
57.80%
83.50%
53.00%
27.40%
16.80%
75.80%
42.60%
70.70%
38.60%
63.30%
28.60%
58.70%
24.90%
65.50%
22.50%
51.80%
15.90%
77.30%
43.50%
Government High School
History High School
Physical Scie High School
English I High School
English II High School
Algebra I High School
Geometry High School
Math I High School
Math II High School
Biology High School
Non Dis. 82.10% 83.50% 27.40% 75.80% 70.70% 63.30% 58.70% 65.50% 51.80% 77.30%
Disadvantaged 57.80% 53.00% 16.80% 42.60% 38.60% 28.60% 24.90% 22.50% 15.90% 43.50%

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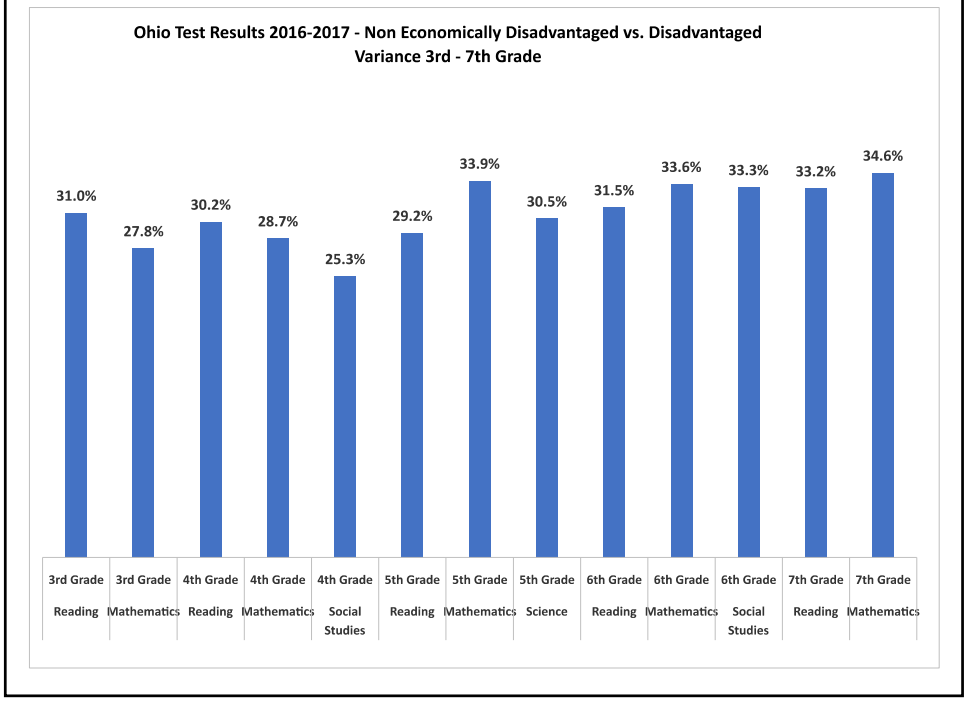
Ohio Test Results 2016-2017 - Non Economically Disadvantaged vs. Disadvantaged
Variance 3rd - 7th Grade
31.0%
27.8%
30.2%
28.7%
25.3%
29.2%
33.9%
30.5%
31.5%
33.6%
33.3%
33.2%
34.6%
3rd Grade Reading
3rd Grade Mathematics
4th Grade Reading
4th Grade Mathematics
4th Grade Social Studies
5th Grade Reading
5th Grade Mathematics
5th Grade Science
6th Grade Reading
6th Grade Mathematics
6th Grade Social Studies
7th Grade Reading
7th Grade Mathematics

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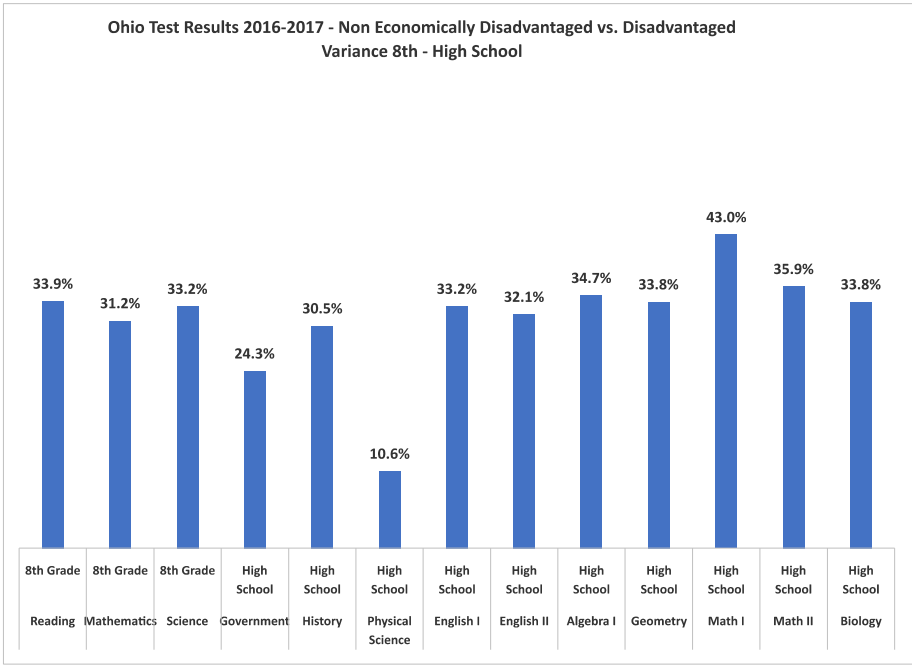

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Achievement Gap by Race and Ethnicity

- While all race and ethnicity student subgroups demonstrate an achievement gap between economically disadvantaged and non-disadvantaged students, the achievement gap tends to be larger for minority students than for white students.
- This is particularly true in elementary grades as the following graph shows.

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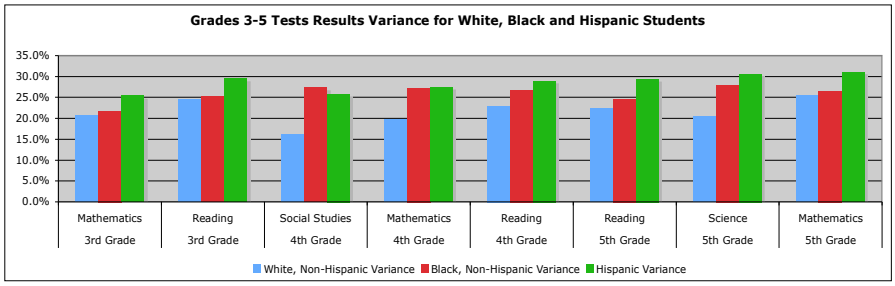
Achievement Gap by Race and Ethnicity



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FY17 vs. FY16 Test Results Comparison by Economic Disadvantagement

- When the FY17 test results are compared to the FY16 test results, economically disadvantaged students showed more improvement on all but one test (5th grade math) in Grades 3-6 than did non-disadvantaged students.
- However, economically disadvantaged students showed less improvement on 7th and 8th grade tests, while there is little pattern on the high school end-of-course test results (most likely because these tests are so new).

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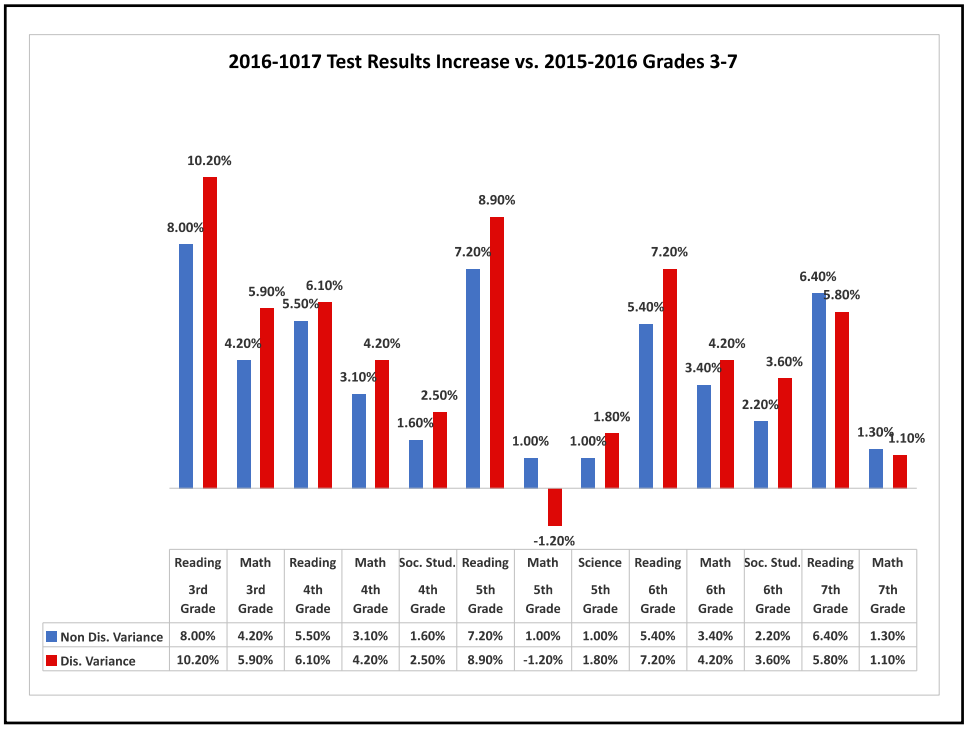

	Reading 3rd Grade	Math 3rd Grade	Reading 4th Grade	Math 4th Grade	Soc. Stud. 4th Grade	Reading 5th Grade	Math 5th Grade	Science 5th Grade	Reading 6th Grade	Math 6th Grade	Soc. Stud. 6th Grade	Reading 7th Grade	Math 7th Grade
Non Dis. Variance	8.00%	4.20%	5.50%	3.10%	1.60%	7.20%	1.00%	1.00%	5.40%	3.40%	2.20%	6.40%	1.30%
Dis. Variance	10.20%	5.90%	6.10%	4.20%	2.50%	8.90%	-1.20%	1.80%	7.20%	4.20%	3.60%	5.80%	1.10%

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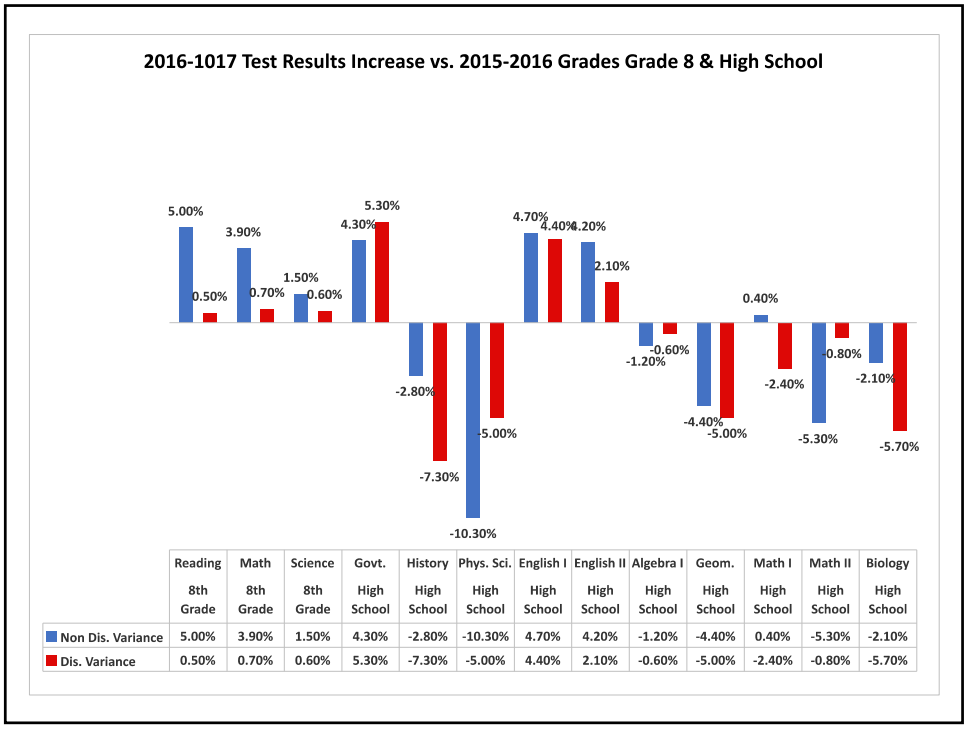

	Reading 8th Grade	Math 8th Grade	Science 8th Grade	Govt. High School	History High School	Phys. Sci. High School	English I High School	English II High School	Algebra I High School	Geom. High School	Math I High School	Math II High School	Biology High School
Non Dis. Variance	5.00%	3.90%	1.50%	4.30%	-2.80%	-10.30%	4.70%	4.20%	-1.20%	-4.40%	0.40%	-5.30%	-2.10%
Dis. Variance	0.50%	0.70%	0.60%	5.30%	-7.30%	-5.00%	4.40%	2.10%	-0.60%	-5.00%	-2.40%	-0.80%	-5.70%

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Policy Options for Closing the Achievement Gap

- Improve kindergarten readiness by increasing Pre-K and early childhood education opportunities for economically disadvantaged children.
- Nobel Prize-winning Economist James Heckman has conclusively shown that early childhood investments are effective, with the largest returns coming from the earliest interventions (see the Heckman Curve).

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Policy Options for Closing the Achievement Gap

- Early childhood investments are not a magic bullet, however, and additional support (both academically and for "wrap-around" services") must continue to be provided once children enter the K-12 system.
- Research by Johns Hopkins University has shown that low-income children can lose more than 2 months in reading achievement over summer vacation while higher income children do not. Investments in summer programs can help eliminate "summer slide".

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Expenditure Patterns Across Ohio School Districts

- Expenditures per pupil vary widely across Ohio's 600+ school districts.
- Many observers reference unadjusted (or "unweighted") expenditure per pupil data when drawing conclusions about which districts spend more and which spend less.
- However this measure is faulty as it does not take into account differences in the types of students that each district must educate.

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Expenditure Per Equivalent Pupil

- However, the Ohio Department of Education computes a second expenditure measure which also appears on the local Report Cards.
- This measure (Expenditure per Equivalent Pupil) adjusts expenditures for differences in student needs by weighting pupils who are economically disadvantaged, limited English proficient, and/or in need of special education services.
- By adjusting for differences in spending across districts ***caused by characteristics of the students as opposed to the operations of the district,*** an "apples to apples" measure of spending is generated which reflects the resources that Ohio's school districts have available to spend on the typical student.

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OEPI Expenditure Per Equivalent Pupil

- While the ODE methodology for computing the Expenditure per Equivalent Pupil is generally sound, the base poverty weight of 0.1 is too low relative to the additional cost of poverty as estimated by national researchers.
- OEPI has therefore computed an alternate Expenditure per Equivalent Pupil measure using a 0.3 base weight for poverty. (Note that due to current data limitations, FY15 is the most recent year for which this measure can be computed.)

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FY15 Expenditure Per Equivalent Pupil Comparison

Typology Group	ODE Unweighted FY15 Expenditure Per Pupil	ODE Weighted Equivalent Expenditure Per Pupil	OEPI Adjusted 2 Equivalent Expenditure Per Pupil
1. Poor Rural	$9,960	$8,153	$7,418
2. Rural	$10,022	$8,437	$7,904
3. Small Town	$9,575	$8,231	$7,894
4. Poor Small Town	$9,767	$7,905	$7,132
5. Suburban	$10,710	$9,009	$8,686
6. Wealthy Suburban	$11,723	$10,070	$9,958
7. Urban	$11,347	$8,619	$7,386
8. Major Urban	$14,093	$9,866	$8,046
Statewide Average	**$10,985**	**$8,885**	**$8,116**

Notes:
ODE Expenditure Per Equivalent Pupil uses a base poverty weight of 0.1

OEPI "Adjusted 2" Expenditure Per Equivalent Pupil uses a base poverty weight of 0.3

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FY15 OEPI Expenditure Per Equivalent Pupil Comparison

FY15 Expenditure Per Pupil Range	Unweighted # of Districts	OEPI Weights # of Districts
$12,500 and above	65	14
$10,000 - $12,500	255	46
$9,000 - $10,000	185	59
$8,000 - $9,000	95	141
$7,000- $8,000	7	217
$6,000- $7,000	0	118
$5,000- $6,000	0	12
Total*	**607**	**607**

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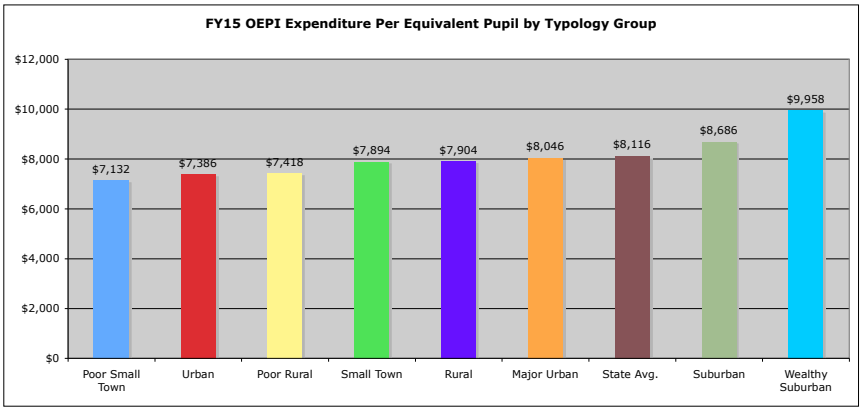
FY15 OEPI Expenditure Per Equivalent Pupil by Typology



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Expenditure Per Equivalent Pupil Analysis

- Once differences in pupil costs are accounted for, urban districts are shown to spend the 2nd lowest on average among Ohio's school district types
- Additionally, the major urban districts' spending per equivalent pupil is below that of the suburban and wealthy suburban districts, as well as below the state average expenditure.

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Funding for Economically Disadvantaged Students

- In FY17 actual (post-gain cap) funding for economically disadvantaged students was $402 million.
- In FY99 it was $345 million. This is a 16.5% increase.
- The % of economically disadvantaged students is more than 50% higher now than it was 16 years ago.
- Modifying the poverty aid formula will be difficult until ODE determines how to accurately count the number of economically disadvantaged students in districts that utilize the Community Eligibility Program (CEP) for free and reduced price lunch.

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Funding for Economically Disadvantaged Students FY99-FY17

Year	Program	Poverty Aid Amount	% Increase	# of Econ. Disadvant. Students	% Econ. Disadvant. Students
FY99	DPIA	$344,923,775		?	
FY00	DPIA	$337,543,392	-2.14%	?	
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	$377,290,978*	1.68%	822,111	48.1%
FY17	EDA	$401,769,653*	6.49%	836,625	48.9%
FY01-17 Change		**$68,650,856**	**20.6%**	**341,796**	**69.1%**

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