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The 21st Century Partnership for STEM Education www.21pstem.org



This study was done with funding from the National Science Foundation. Award Number: 0314806. The findings and conclusions are the responsibly of the authors and do not necessarily reflect the views of the NSF.

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John Y. Baker F. Joseph Merlino



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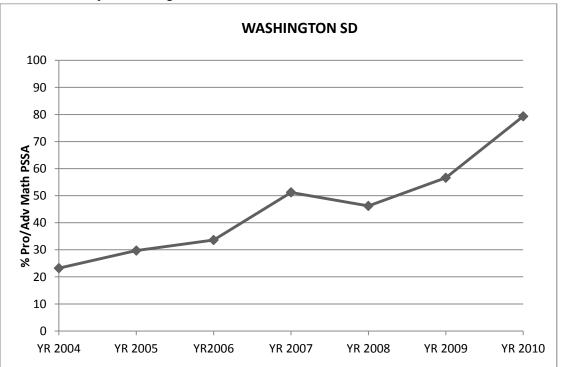
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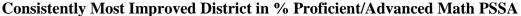
Introduction:

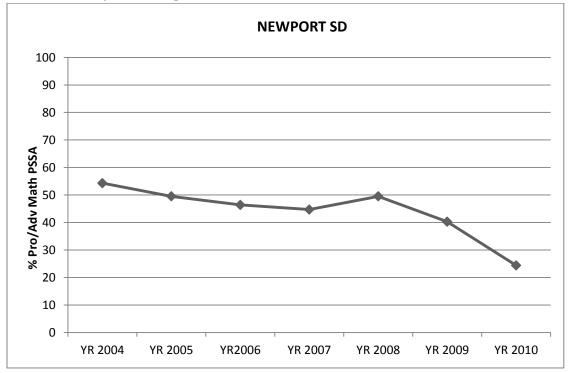
Despite the commonly held belief that higher spending is correlated with higher tests scores, the evidence does not support this in Pennsylvania as measured by 11th grade math and reading scores from 2004-2010.

From 2004 to 2010, Pennsylvania schools gained on average 10 percentage points in students scoring proficient or advanced in mathematics on the 11th grade state test, and 5 percentage points in reading. However, there were some districts that made far greater improvements than the average gain in 11th grade test scores, while some other district's scores actually regressed.

The most improved district on the 11th grade PSSA math test over the past 6 years was Washington School District whose students rose over **59** percentage points. The most regressed district was Newport School District whose average *dropped* almost **30** percentage points on the same test. On the 11th reading test, the most improved district was Duquesne City, increasing almost 36 percentage points. The most regressed district was Northern Potter, dropping over 27 percentage points in reading.



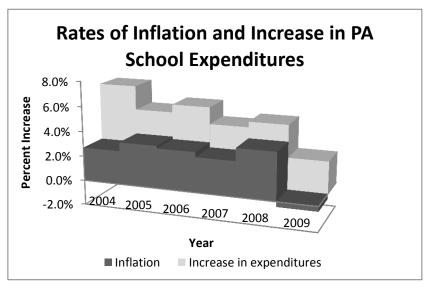




Consistently Most Regressed District in % Proficient/Advanced Math PSSA

While the changes in these two districts may appear extreme, they are not alone. What accounts for such dramatic improvements or regressions? In the following report, we set out to examine the 30 districts that have improved the most and the 30 districts that have regressed the most on the Pennsylvania 11th grade math and reading tests over the last 6 years. Our research team began by looking for whether changes in the educational expenditures spent by each district were in any way related to differences in 11th grade student outcomes.

In 2009, Pennsylvania school districts spent nearly \$23.5 billion dollars on educating This number their students. has risen significantly in recent years, from \$18.6 billion dollars in 2004. Since 2004, the total expenditures of all districts in the state have increased 26%, which is nearly *double* the inflation *rate* over the same time period.



Advocates for increasing school spending argue that with additional resources districts should be better able to meet the emotional and academic needs of their students. But do those increases in spending relate to rises in achievement?

In our analysis of the 30 most improved district compared to the 30 most regressed districts, changes in school expenditures were **not** associated with changes in student achievement as measured on the 11th grade PSSA. In fact, in some cases the districts that had regressed the most actually *increased* spending significantly more than those whose scores improved the most.

This report is just a beginning. It uncovers facts that go against a strongly held belief that increases in financial resources to districts will automatically result in better 11th grade student achievement. We respect and share the impassioned desire of those who want to increase student achievement. At the same time, we cannot, nor should we, ignore the evidence. It is clear from this report and its companion report that money alone is not sufficient to improve 11th grade student achievement in math and reading.

Looking at the numbers cannot tell you *why* these 30 districts improved while others worsened. This report only exposes that money does not correspond with higher 11^{th} grade achievement as measured on state tests. This report does not argue against the well funding of public education. Nevertheless, we need to better understand *how* school districts use not only simple resources but also "compound" and "abstract" resources to produce better results. A next step, yet to be undertaken, is to look more deeply into why some districts have gained so much and others have lost ground.

Summary of Report:

We looked at the 30 districts that have improved the most and regressed the most from 2004 to 2010 in percent advanced and percent proficient/advanced on the 11th grade PSSA math and reading. We thus have four measurements of achievement in each year. In particular, we investigated what made these districts different from each other, both with respect to expenditures and various other district and community variables.

What we found was very similar to other work we have done comparing district finances with achievement. In a companion report, *Are Educational Expenditures Associated with 11th Grade Student Achievement in Pennsylvania School Districts?* (21PSTEM, October, 2010), we found that total expenditures per student and instructional expenditures per student were not related to performance on the 11th grade PSSA math, science, or reading tests or SAT math and verbal subtests across all 498 school districts in Pennsylvania for 2007, 2008, and 2009.

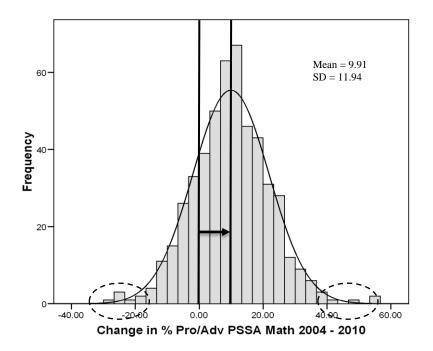
In particular, we looked at correlations between expenditures and achievement, we built multiple-regression models, disaggregated expenditures, and compared changes in expenditures with changes in performance on PSSA and SAT for 11th graders. Across the board, relationships were small, non-existent, and at times negative—i.e., higher performance was associated with lower expenditures.

In the present work we also find small or no relationship between most improved and most regressed districts and finances. In relation to some measures of achievement, districts that regressed the most had, on average, increased spending per pupil from 2004 to 2009 more (and spent more in 2009) than districts that improved the most.

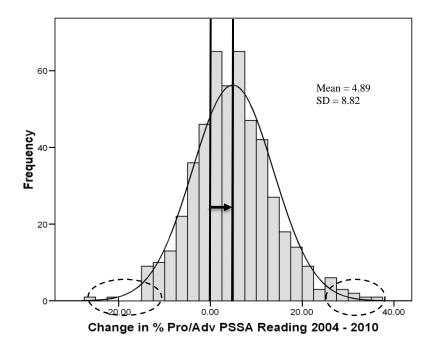
In this summary, we briefly touch on much of the analysis found later in the technical report. To start, on average, performance on both the 11th grade PSSA math and reading tests has improved modestly over the last 6 years, more so on the math test than the reading test. Overall achievement levels, however, remain higher on the 11th grade PSSA reading. While the averages have increased, there are many districts that have regressed as others have improved.

The first set of graphs presented here illustrate the number of districts that have increased or decreased by certain percentage points on math and reading. The horizontal axis shows the percentage point changes from 2004 to 2010. The vertical axis shows the number of districts that had a given change in percentage points.

For the 11th grade PSSA math test, the average increase from 2004 to 2010 was 9.9 percentage points in percent proficient/advanced and 7.2 percentage points in percent advanced. Most districts were close to the average. The arrow shows the shift.

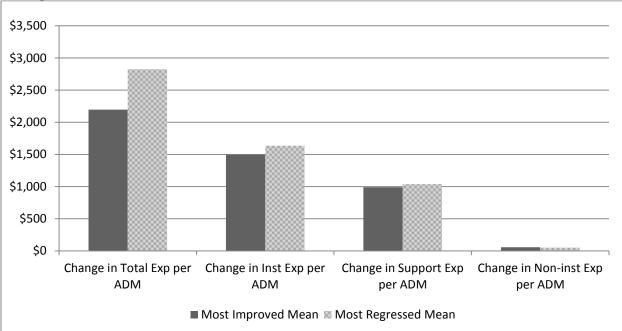


For 11th grade PSSA reading, the average changes from 2004 to 2010 are smaller at 4.9 for percent proficient/advanced and 6.7 for percent advanced.



In all of the graphs, the distributions are symmetric around the averages, with roughly half improving more than the average and half not meeting that level. As you get farther from the average change, there are fewer and fewer districts. For example, there were a handful of districts on the first graph that dropped more than 20 percentage points in percent proficient/advanced on the 11th grade PSSA math from 2004 to 2010, and several that improved more than 40 percentage points. These "outliers" exist in each graph, and the purpose of this report is to look for anything that differentiates these districts from each other, especially in regard to expenditures.

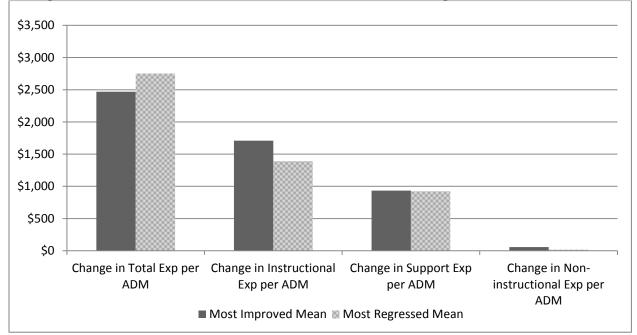
In the report, we look at how changes in different types of expenditures per pupil from 2004 to 2009, along with other measures, relate to the 30 districts that improved the most and the 30 districts that regressed the most on the PSSA measures from 2004 to 2010. The graphs below show that those districts that increased the most on a PSSA measure *also tended to have less of an increase in their total expenditures per pupil* than those districts that regressed the most.



Change in % Proficient/Advanced on 11th Grade PSSA Math

Note: ADM is an abbreviation for "average daily membership"

There are some places where districts that improved the most also *increased* in spending more than those that regressed the most. You can see this in the next table, with the change in instructional expenditures and change in percent proficient/advanced on the 11th grade PSSA reading. Places where most improving districts spend more are not statistically significant, however. Across all of the comparisons, the differences tend not to be statistically significant. In other words, in most cases, the amount of change in spending varies only by chance and does not correspond with being either most improved or most regressed.



Change in % Proficient/Advanced on 11th Grade PSSA Reading

In our Technical Report below, we expand on the analyses summarized here, looking at how the districts compared on a host of district and community variables. We also enumerate the 30 districts that have improved and regressed the most on each of our four measures, along with profiles of districts that have consistently regressed and improved over the past 6 years. The profiles include graphs charting performance and tables of statistics describing those districts. In all of the analyses, we could find no strong patterns between any factors and whether a district was strongly improving or regressing.

Disclaimer:

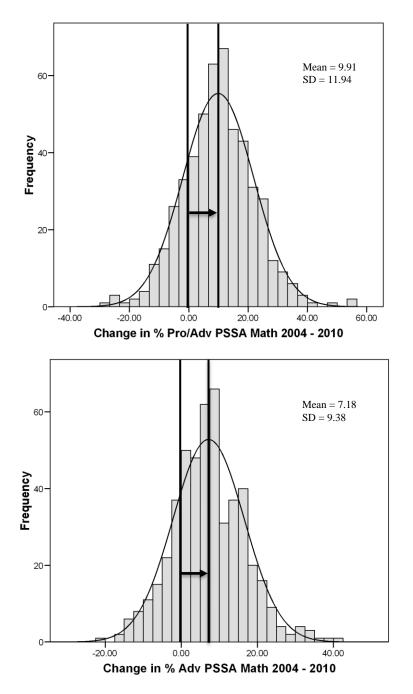
The previous summary explained the different types of analyses that were done. The analyses are exploratory. The purpose of this work is fairly simple: to find the districts that improved the most and regressed from 2004 to 2010 on the 11^{th} grade PSSA tests and how these districts might be different from each other.

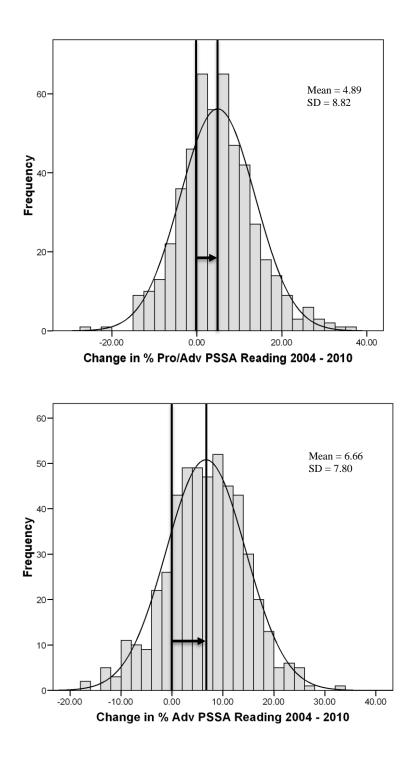
While our main finding is that changes in expenditures seem to be unrelated to changes in 11th grade PSSA scores, we do not believe this alone is conclusive evidence that money does not matter in schooling. It remains untested as to how more money has the potential to lead to increased achievement and/or increased performance on the 11th grade PSSA or some other measures.

We believe that something else is going on that is not captured by how expenditures are recorded. One question might be, how efficiently do districts spend money? Another question is whether there are other factors that mediate achievement in a way that hides the effect of expenditures? This report does not answer these questions, but rather creates the arena to ask these questions.

Technical Report:

Distribution of change in PSSA. The following are histograms that show the spread of how 11th grade PSSA scores have changed from 2004 to 2010. The data are normally distributed, meaning that most of the school districts had changes around the state average increase (68% are within one SD in either direction). There are several districts who did much better than the mean, and others who fared much worse. In the remainder of the report we investigate the top and bottom 30 districts for each measure.





Comparison of change in PSSA to change in expenditures. The following are tables that look at the thirty school districts whose scores regressed the most and thirty districts whose scores improved the most from 2004 to 2010 using changes in % proficient/advanced and % advanced on 11th grade PSSA math and reading. The financials of the districts are compared (differences from 2004 to 2009), with significance levels (p-value) from an independent t-test. If the p-value is below .10, it indicates that the difference between the most improved and the most regressed districts is statistically significant (i.e., the difference is likely not due to random chance). Few of the groupings are statistically different, even if the differences are large, because the standard deviations are very large—indicating a lot of variability in the expenditures across the groupings. There a couple of statistically significant differences in financials between the most regressed and most improved districts, the largest being on change in % advanced in math and change in total expenditures. The most regressed increased in total expenditures more than those who improved the most, opposite of the relationship one might expect.

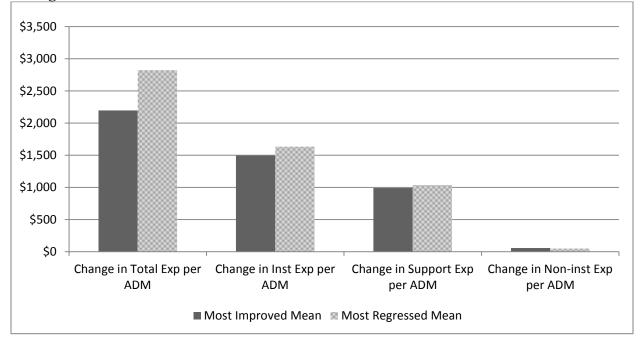
Change in % Pro/Adv Math								
	Most Impro	ved (30)	Most Regre	essed (31)				
	Mean	SD	Mean	SD	p-value			
Change in Total Exp per ADM	\$2,197	\$2,485	\$2,823	\$2,979	0.38			
Change in Inst Exp per ADM	\$1,495	\$608	\$1,634	\$534	0.35			
Change in Support Exp per ADM	\$990	\$424	\$1,036	\$489	0.70			
Change in Non-inst Exp per ADM	\$56	\$48	\$48	\$102	0.70			
Change in Attendance								
	-86	140	-71	135	0.66			

Change in % Adv Math									
	Most Impro	ved (31)	Most Regre	ssed (30)					
	Mean	SD	Mean	SD	p-value				
Change in Total Exp									
per ADM	\$1,894	\$2,317	\$3,118	\$1,273	0.01				
Change in Inst Exp									
per ADM	\$1,435	\$630	\$1,576	\$574	0.37				
Change in Support									
Exp per ADM	\$918	\$374	\$925	\$378	0.94				
Change in Non-inst									
Exp per ADM	\$58	\$64	\$43	\$66	0.37				
Change in Attendance									
	-73	152	-37	189	0.41				

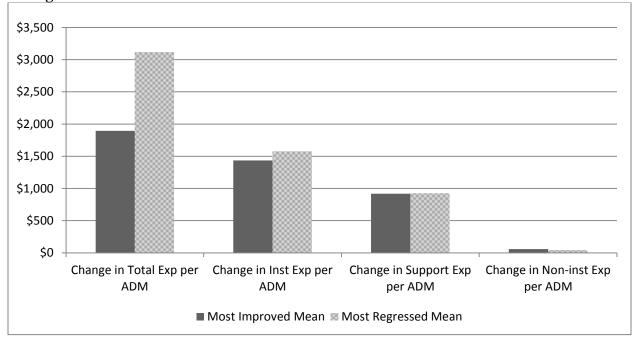
Change in % Pro/Adv Reading									
	Most Improv	ved (30)	Most Regre	ssed (30)					
	Mean	SD	Mean	SD	p-value				
Change in Total Exp									
per ADM	\$2,469	\$2,588	\$2,754	\$1,892	0.63				
Change in Inst Exp									
per ADM	\$1,708	\$981	\$1,392	\$566	0.13				
Change in Support									
Exp per ADM	\$935	\$368	\$924	\$273	0.90				
Change in Non-inst									
Exp per ADM	\$56	\$68	\$17	\$82	0.05				
Change in Attendance									
	-55	174	-60	175	0.91				

Change in % Adv Reading									
	Most Impro	ved (30)	Most Regre	ssed (30)					
	Mean	SD	Mean	SD	p-value				
Change in Total Exp									
per ADM	\$2,738	\$1,242	\$2,853	\$1,716	0.77				
Change in Inst Exp									
per ADM	\$1,498	\$550	\$1,480	\$622	0.90				
Change in Support									
Exp per ADM	\$909	\$330	\$846	\$263	0.42				
Change in Non-inst									
Exp per ADM	\$62	\$63	\$30	\$72	0.08				
Change in Attendance									
	-55	188	18	218	0.17				

The following are graphs of the previous tables, created to illustrate group differences. The two PSSA math tables show that districts that were the most improved in that test tended to have much smaller increases in total expenditures from 2004 to 2009 than those districts that regressed the most. Again, this goes against intuition, which would dictate that increased spending would be related to the districts that improved the most, not the ones that regressed the most.

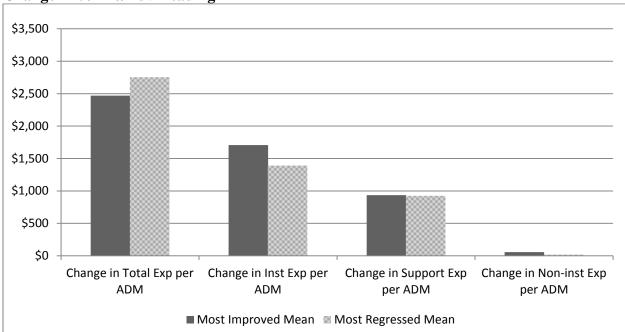


Change in % Pro/Adv Math

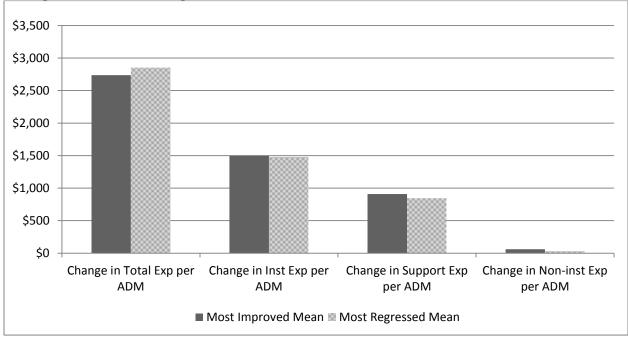


Change in % Adv Math





Change in % Adv Reading



The two reading measures show much smaller differences in expenditures between those districts improving and regressing the most. While relationships in either direction are somewhat revealing, what is most remarkable is the lack of significant differences between the groups. In most comparisons, there are no significant differences in change in expenditures between the districts that improved and regressed the most.

Comparisons of change in PSSA to 2009 expenditures. In the following tables and graphs, we compare the most regressed and most improved districts on all four measures of the 11th grade PSSA from 2004 to 2010 and those districts' expenditures in 2009, rather than the change from 2004 to 2009. Those who regressed the most on both measures of the PSSA math had higher total expenditures than those who improved the most. Most of the rest of the differences are not statistically significant, indicating that while there appears to be a difference it is most likely do to random chance. Nevertheless, while districts who improved the most on the PSSA math tended to spend less than those who regressed the most, the relationship is the opposite with the PSSA reading (though to a much lesser and non-significant extent).

Change in % Pro/Adv Math								
	Most Improv	red (30)	Most Regres	ssed (31)				
	Mean	SD	Mean	SD	p-value			
Total Exp per ADM 2009	\$12,853	\$2,201	\$13,891	\$2,157	0.07			
Inst Exp per ADM 2009	\$7,274	\$1,073	\$7,452	\$1,054	0.52			
Support Exp per ADM 2009	\$3,998	\$877	\$4,113	\$512	0.53			
Non-inst Exp per ADM 2009	\$258	\$129	\$263	\$178	0.91			
ADM 2009								
	2159	2483	1775	984	0.43			

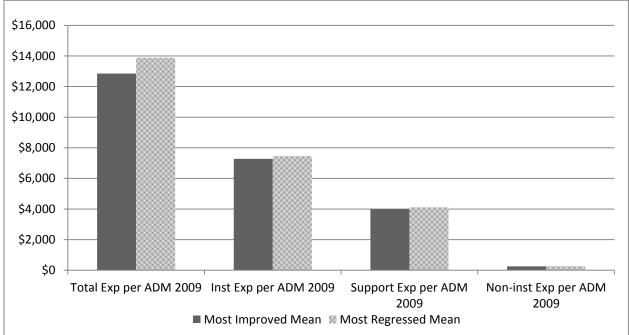
Change in % Adv Math								
	Most Improv	ed (31)	Most Regres	sed (30)				
	Mean	SD	Mean	SD	p-value			
Total Exp per ADM								
2009	\$12,307	\$1,470	\$13,193	\$2,202	0.07			
Inst Exp per ADM								
2009	\$7,097	\$830	\$7,286	\$1,040	0.43			
Support Exp per								
ADM 2009	\$3,825	\$613	\$3,873	\$488	0.73			
Non-inst Exp per								
ADM 2009	\$255	\$126	\$248	\$123	0.82			
ADM 2009								
	2081	2378	2489	1586	0.43			

Change in % Pro/Adv Reading									
	Most Improv	ed (30)	Most Regres	sed (30)					
	Mean	SD	Mean	SD	p-value				
Total Exp per ADM									
2009	\$13,178	\$2,381	\$12,782	\$1,782	0.47				
Inst Exp per ADM									
2009	\$7,571	\$1,654	\$7,082	\$870	0.16				
Support Exp per									
ADM 2009	\$3,985	\$623	\$3,790	\$557	0.21				
Non-inst Exp per									
ADM 2009	\$270	\$134	\$204	\$100	0.04				
ADM 2009									
	1801	2104	2209	1485	0.39				

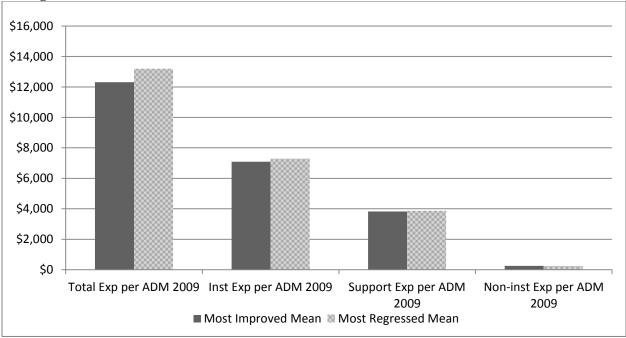
Change in % Adv Reading									
	Most Improv	ved (30)	Most Regres	ssed (30)					
	Mean	SD	Mean	SD	p-value				
Total Exp per ADM									
2009	\$13,305	\$2,476	\$12,695	\$1,841	0.28				
Inst Exp per ADM									
2009	\$7,494	\$1,279	\$7,075	\$996	0.16				
Support Exp per									
ADM 2009	\$4,046	\$926	\$3,717	\$463	0.09				
Non-inst Exp per									
ADM 2009	\$247	\$124	\$225	\$107	0.46				
ADM 2009									
	2016	1353	2216	1573	0.60				

Finding no differences in most expenditures between the most improved and most regressed districts is, again, an important finding. One would expect that higher expenditures would be linked with higher achievement. This is not supported by the data we have analyzed.

The following graphs, like before, illustrate the differences in spending between the most regressed and most improved school districts with regard to PSSA math and reading.

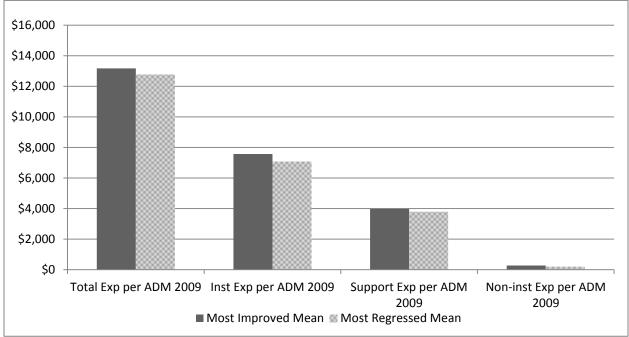


Change in % Pro/Adv Math

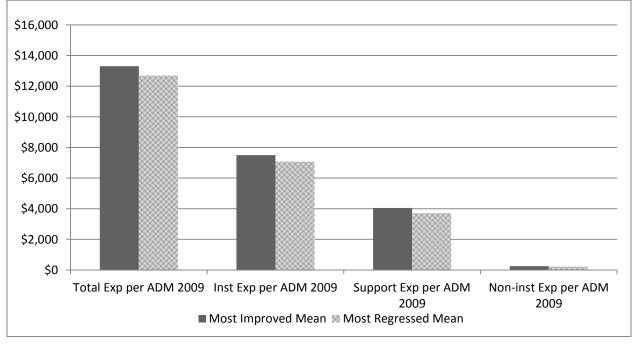


Change in % Adv Math

Change in % Pro/Adv Reading



Change in % Adv Reading



Comparisons of change in PSSA to school and community variables. The following tables show differences between districts that improved the most and regressed the most from 2004 to 2010 on the four PSSA measures and several school and community variables. The same t-test procedure was used to determine whether the differences are statistically significant. Notice there are several spots over the next four tables where certain percentages are statistically different, especially with the percent of community members who have received a bachelor's degree. The general trends are as follows: the most improved districts, across all of the measures, tend to have higher percentages of students eligible for free/reduced lunch, lower percentages of community members with a bachelor's degree, and similar percentages of the students that are White, ELL, as well as similar pupil/teacher ratios.

Change in % Pro/Adv Math									
	Most Impre	oved (30)	Most Regre	essed (31)					
	Mean	SD	Mean	SD	p-value				
% eligible for free/reduced lunch 2008	34.4%	13.7%	31.5%	10.9%	0.37				
People over 22 with 4- year degree 2000	11.4%	4.2%	14.8%	7.0%	0.02				
% of district students that are white 2008	93.9%	9.8%	92.0%	14.6%	0.56				
% ELL enrollment 2008	0.4%	0.9%	0.4%	0.5%	0.99				
Pupil teacher ratio 2008	14.0	2.2	14.0	1.9	0.91				

Change in % Adv Math								
	Most Impre	oved (31)	Most Regre	essed (30)				
	Mean	SD	Mean	SD	p-value			
% eligible for free/reduced lunch 2008	34.6%	13.3%	28.8%	12.2%	0.08			
People over 22 with 4- year degree 2000	12.2%	6.2%	16.7%	8.7%	0.02			
% of district students that are white 2008	92.3%	11.2%	93.7%	5.6%	0.52			
% ELL enrollment 2008	0.6%	1.0%	0.7%	1.1%	0.60			
Pupil teacher ratio 2008	14.2	2.5	14.1	2.6	0.77			

Change in % Pro/Adv Reading									
	Most Impr	oved (30)	Most Regre	essed (30)					
	Mean	SD	Mean	SD	p-value				
% eligible for free/reduced lunch 2008	37.8%	10.7%	31.2%	13.7%	0.05				
People over 22 with 4- year degree 2000	11.1%	5.2%	14.7%	8.0%	0.05				
% of district students that are white 2008	90.8%	12.8%	91.6%	14.0%	0.82				
% ELL enrollment 2008	0.9%	1.9%	0.6%	1.0%	0.52				
Pupil teacher ratio 2008	13.8	2.3	13.4	2.5	0.61				

Change in % Adv Reading									
	Most Impre	oved (30)	Most Regre	essed (30)					
	Mean	SD	Mean	SD	p-value				
% eligible for free/reduced lunch 2008	30.3%	13.8%	29.2%	12.3%	0.73				
People over 22 with 4- year degree 2000	16.5%	10.2%	17.2%	9.3%	0.78				
% of district students that are white 2008	90.5%	11.6%	91.8%	7.4%	0.62				
% ELL enrollment 2008	0.7%	1.3%	1.3%	1.9%	0.21				
Pupil teacher ratio 2008	13.5	2.5	13.3	3.3	0.75				

Over the past three sections, we have explored how the groups of school districts that were the most improved and regressed on our four measures differed with regard to change in expenditures from 2004 to 2009, expenditure levels in 2009, and a host of school and community variables. The trends have been discussed, with much of the data pointing to little difference between the districts that were most regressed and most improved. Some notable differences include: school districts who have improved the most on the PSSA math tend to have increased expenditures less than those that have regressed the most, and the percent of community residents with college degrees was higher in districts that were most regressed. In the next section, we compare the groups one more time by looking at how they differ by location type. After this, we change gears and enumerate the districts that have made up the previously compared groupings.

Comparison of improved/regressed and location type. The following tables have counts of districts that were most regressed and most improved in all four measures of the 11th grade PSSA by location type. The second table shows the percentage of each count out of the total number of districts of that type to show the percentage of each type of location that have either regressed or improved the most. No urban districts were in the 30 most improved districts for any of the four measures, and suburban school districts tended to be over-represented in the groupings of most regressed districts across the board. There are slightly higher numbers for both town and rural in the groupings of most improved.

	Total	Urban	Suburban	Town	Rural
Most Improved PSSA Math Pro/Adv	30	0	4	7	19
Most Improved PSSA Math Adv	31	0	8	7	16
Most Improved PSSA Reading Pro/Adv	30	0	8	4	18
Most Improved PSSA Reading Adv	30	0	11	7	12
Most Regressed PSSA Math Pro/Adv	31	0	9	6	16
Most Regressed PSSA Math Adv	30	1	10	7	12
Most Regressed PSSA Reading Pro/Adv	30	1	9	6	14
Most Regressed PSSA Reading Adv	30	1	8	7	14
Total	498	16	207	95	180
	% of	% of	% of	% of	% of
	Total	Urban	Suburban	Town	Rural
Most Improved PSSA Math Pro/Adv	6.02%	0.00%	1.93%	7.37%	10.56%
Most Improved PSSA Math Adv	6.22%	0.00%	3.86%	7.37%	8.89%
Most Improved PSSA Reading Pro/Adv	6.02%	0.00%	3.86%	4.21%	10.00%
Most Improved PSSA Reading Adv	6.02%	0.00%	5.31%	7.37%	6.67%
Most Regressed PSSA Math Pro/Adv	6.22%	0.00%	4.35%	6.32%	8.89%
Most Regressed PSSA Math Adv	6.02%	6.25%	4.83%	7.37%	6.67%
Most Regressed PSSA Reading Pro/Adv	6.02%	6.25%	4.35%	6.32%	7.78%
Most Regressed PSSA Reading Adv	6.02%	6.25%	3.86%	7.37%	7.78%

List of most improved/regressed with expenditures. For the remainder of the report, we look at individual differences between the districts that have improved and regressed the most. The following set of tables enumerate the school districts that have regressed the most and improved the most from 2004 to 2010 in % proficient/advanced and % advanced on PSSA math and reading. Expenditures are included for comparison across districts.

	Change in %Pro/Adv	Change in	Change in Total	Change in Inst	Change in Suppt	Change in Non-
	Math	ADM	Exp	Exp	Exp	Inst Exp
Most Improved	Wath		Цлр	Елр	Елр	mot Exp
WASHINGTON SD	56.1	-346	\$3,508	\$2,430	\$972	\$92
GREENWOOD SD	53.4	7	\$3,400	\$1,731	\$1,106	\$44
CENTRAL FULTON SD	49.7	-30	\$3,500	\$2,178	\$820	\$61
MEYERSDALE AREA SD	40.6	-152	\$3,103	\$1,420	\$1,424	\$67
LAKELAND SD	39.8	43	\$1,043	\$792	\$369	\$33
HARMONY AREA SD	37.8	-45	\$3,700	\$1,565	\$1,933	\$69
CHARLEROI SD	37.6	17	\$1,733	\$1,225	\$546	\$37
BROWNSVILLE AREA SD	36.6	-34	\$1,545	\$742	\$381	\$22
SOUTHERN FULTON SD	34.9	-29	-\$4,887	\$1,106	\$894	\$39
BRADFORD AREA SD	34.8	-124	\$2,334	\$577	\$1,151	\$77
BANGOR AREA SD	34.8	-184	\$3,101	\$2,126	\$1,352	\$86
EVERETT AREA SD	34.3	-83	\$2,004	\$1,326	\$581	\$14
POCONO MOUNTAIN SD	33.6	134	\$5,085	\$3,214	\$1,913	\$56
PORT ALLEGANY SD	32.4	-130	\$2,086	\$1,501	\$710	\$75
SHAMOKIN AREA SD	32.3	-4	\$1,899	\$1,463	\$903	-\$12
SHARPSVILLE AREA SD	31.8	-44	\$2,821	\$1,534	\$871	\$41
SELINSGROVE AREA SD	31.6	-122	\$84	\$1,236	\$666	\$1
TROY AREA SD	31	-244	\$3,319	\$1,711	\$1,083	\$48
EAST LYCOMING SD	30.9	-120	\$1,992	\$1,222	\$571	\$170
WAYNESBORO AREA SD	30.8	223	\$1,854	\$1,294	\$513	\$8
WEST GREENE SD	30.5	-168	\$6,962	\$2,128	\$1,443	\$78
OSWAYO VALLEY SD	30.4	-99	-\$6,359	\$1,783	\$1,565	\$134
PURCHASE LINE SD	30	-125	\$2,663	\$747	\$1,499	\$70
SAINT MARYS AREA SD	29.7	-178	\$1,799	\$936	\$757	\$72
SOUTH SIDE AREA SD	29.4	-104	\$4,466	\$2,041	\$1,070	\$140
CALIFORNIA AREA SD	29.1	-54	\$2,608	\$1,448	\$912	\$152
BERLIN BROTHERSVALLEY S	28.9	-8	\$2,038	\$512	\$581	-\$3
NESHAMINY SD	28.6	-559	\$3,448	\$2,175	\$952	\$8
WILLIAMSBURG COMMUNITY	28.4	-24	\$2,424	\$1,812	\$712	\$39
SOUTHEASTERN GREENE SD	28.2	-6	\$2,629	\$867	\$1,464	-\$32
Average	34.6	-86	\$2,197	\$1,495	\$990	\$56

Change in %Pro/Adv Math PSSA

[Change in	Change	Change	Change	Change	Change
	%Pro/Adv	in	in Total	in Inst	in Suppt	in Non-
	Math	ADM	Exp	Exp	Exp	Inst Exp
Most Regressed						
NEWPORT SD	-29.9	-110	\$4,236	\$2,491	\$967	\$37
NORTHGATE SD	-25.2	-181	\$4,519	\$2,744	\$1,111	\$65
CLARION AREA SD	-24.6	-45	\$3,283	\$1,218	\$812	\$69
SHADE-CENTRAL CITY SD	-24.2	-29	-\$6,397	\$1,139	-\$192	\$78
SHANKSVILLE-STONYCREEK	-20.1	-72	\$2,291	\$2,118	\$1,402	\$87
UPPER PERKIOMEN SD	-17.4	-141	\$3,479	\$2,037	\$1,116	-\$1
NORTHWESTERN LEHIGH SD	-17.2	70	\$3,605	\$1,546	\$1,028	\$64
JIM THORPE AREA SD	-16.4	371	\$2,316	\$1,289	\$1,032	-\$109
TYRONE AREA SD	-16.3	-88	\$1,684	\$1,027	\$789	-\$17
COUDERSPORT AREA SD	-15.9	-81	\$5,327	\$829	\$983	-\$9
FARRELL AREA SD	-14.7	-145	\$4,943	\$1,975	\$2,079	\$480
DERRY AREA SD	-12.9	-269	\$2,649	\$1,452	\$758	\$65
MOSHANNON VALLEY SD	-12.4	-202	\$6,978	\$1,798	\$785	\$63
FRAZIER SD	-11.7	52	\$1,944	\$1,480	\$660	\$41
NORTHERN POTTER SD	-11.4	-108	\$4,548	\$2,650	\$1,158	\$159
GENERAL MCLANE SD	-11	-266	\$7,517	\$1,159	\$1,153	-\$61
CRAWFORD CENTRAL SD	-11	-104	\$1,506	\$1,202	\$56	\$65
INDIANA AREA SD	-10.5	-355	\$4,232	\$2,326	\$1,503	\$66
POTTSGROVE SD	-10.3	48	\$3,260	\$2,095	\$1,279	\$63
DERRY TOWNSHIP SD	-10.1	119	\$2,540	\$1,087	\$1,180	\$17
CARLYNTON SD	-10.1	-120	\$2,014	\$1,229	\$718	\$11
RICHLAND SD	-10.1	58	\$3,135	\$1,116	\$2,125	\$124
GREENVILLE AREA SD	-10	-86	\$1,920	\$1,016	\$601	-\$21
ANNVILLE-CLEONA SD	-9.8	-82	\$3,645	\$1,633	\$922	-\$153
HIGHLANDS SD	-9.6	-27	\$1,805	\$1,184	\$691	\$31
FORBES ROAD SD	-9.4	4	\$3,561	\$1,373	\$1,252	\$55
SCHUYLKILL VALLEY SD	-8.5	36	\$3,940	\$2,154	\$1,431	\$81
PENNS MANOR AREA SD	-8.5	-59	-\$7,200	\$1,849	\$1,142	\$10
CLARION-LIMESTONE AREA	-8.1	-63	\$1,119	\$1,259	\$436	-\$29
PEQUEA VALLEY SD	-8.1	-125	\$5,282	\$2,228	\$1,528	\$67
MONTROSE AREA SD	-8.1	-201	\$3,846	\$1,937	\$1,607	\$92
Average	-13.7	-71	\$2,823	\$1,634	\$1,036	\$48

Change in % Adv Math PSSA

	Change in %Adv	Change in ADM	Change in Total Exp	Change in Inst Exp	Change in Suppt Exp	Change in Non- Inst Exp
	Math		r	r	r	r
Most Improved						
CALIFORNIA AREA SD	40.3	-54	\$2,608	\$1,448	\$912	\$152
WASHINGTON SD	39.5	-346	\$3,508	\$2,430	\$972	\$92
OSWAYO VALLEY SD	35.8	-99	-\$6,359	\$1,783	\$1,565	\$134
CENTRAL FULTON SD	33.8	-30	\$3,500	\$2,178	\$820	\$61
BROWNSVILLE AREA SD	33.7	-34	\$1,545	\$742	\$381	\$22
MONESSEN CITY SD	33.4	-129	\$4,916	\$3,058	\$1,231	\$46
GREENWOOD SD	31.1	7	\$3,400	\$1,731	\$1,106	\$44
LAKELAND SD	30.4	43	\$1,043	\$792	\$369	\$33
HARMONY AREA SD	30.1	-45	\$3,700	\$1,565	\$1,933	\$69
GLENDALE SD	30.0	-67	\$1,911	\$515	\$894	\$121
EVERETT AREA SD	28.8	-83	\$2,004	\$1,326	\$581	\$14
SHARPSVILLE AREA SD	27.6	-44	\$2,821	\$1,534	\$871	\$41
TULPEHOCKEN AREA SD	25.9	-99	\$5,241	\$2,252	\$1,394	\$118
BRADFORD AREA SD	25.6	-124	\$2,334	\$577	\$1,151	\$77
CARMICHAELS AREA SD	25.4	-24	\$1,813	\$1,079	\$560	\$72
MILTON AREA SD	25.4	-132	\$1,692	\$1,204	\$751	\$80
STEEL VALLEY SD	24.7	-136	\$2,404	\$1,009	\$1,251	\$110
MILLCREEK TOWNSHIP SD	24.7	316	\$1,851	\$809	\$823	-\$59
SOUTHERN FULTON SD	24.1	-29	-\$4,887	\$1,106	\$894	\$39
LINE MOUNTAIN SD	24.0	-43	\$3,253	\$1,814	\$751	-\$127
LIGONIER VALLEY SD	23.9	-195	\$2,997	\$1,576	\$1,046	\$67
PENN CAMBRIA SD	23.7	-79	\$1,426	\$534	\$586	\$156
SHENANGO AREA SD	23.2	-82	\$1,760	\$1,520	\$533	-\$34
CARBONDALE AREA SD	23.1	167	\$1,468	\$875	\$598	\$6
NORTH PENN SD	22.7	-570	\$3,602	\$2,001	\$1,366	\$32
SOUTHERN TIOGA SD	22.3	-150	\$11	\$2,240	\$980	\$108
CONEMAUGH TOWNSHIP AREA	22.1	-97	\$649	\$916	\$931	\$19
EAST LYCOMING SD	22.0	-120	\$1,992	\$1,222	\$571	\$170
GREATER NANTICOKE AREA	22.0	211	\$1,481	\$834	\$273	\$1
BANGOR AREA SD	21.2	-184	\$3,101	\$2,126	\$1,352	\$86
FANNETT-METAL SD	21.2	-23	\$1,944	\$1,690	\$1,000	\$44
Average	27.2	-73	\$1,894	\$1,435	\$918	\$58

	Change in	Change in ADM	Change in Total	Change in Inst	Change in Suppt	Change in Non-
	%Adv Math		Exp	Exp	Exp	Inst Exp
	Math					
Most Regressed	1	T	T		[
CLARION AREA SD	-20.9	-45	\$3,283	\$1,218	\$812	\$69
NORTHGATE SD	-16.7	-181	\$4,519	\$2,744	\$1,111	\$65
TYRONE AREA SD	-15.6	-88	\$1,684	\$1,027	\$789	-\$17
UPPER PERKIOMEN SD	-14.8	-141	\$3,479	\$2,037	\$1,116	-\$1
INDIANA AREA SD	-14.4	-355	\$4,232	\$2,326	\$1,503	\$66
RICHLAND SD	-14.2	58	\$3,135	\$1,116	\$2,125	\$124
APOLLO-RIDGE SD	-14.0	-84	\$2,721	\$1,519	\$678	\$5
CENTRAL COLUMBIA SD	-13.7	-137	\$2,626	\$1,270	\$695	-\$51
FRAZIER SD	-13.6	52	\$1,944	\$1,480	\$660	\$41
WILKES-BARRE AREA SD	-12.0	354	\$2,183	\$797	\$865	\$19
WILMINGTON AREA SD	-11.8	-126	\$2,020	\$1,105	\$631	\$95
DERRY TOWNSHIP SD	-11.6	119	\$2,540	\$1,087	\$1,180	\$17
MOSHANNON VALLEY SD	-11.0	-202	\$6,978	\$1,798	\$785	\$63
MONTROSE AREA SD	-11.0	-201	\$3,846	\$1,937	\$1,607	\$92
NORTHERN BEDFORD COUNTY	-10.9	30	\$1,055	\$1,033	\$609	\$19
DERRY AREA SD	-10.4	-269	\$2,649	\$1,452	\$758	\$65
COUDERSPORT AREA SD	-10.4	-81	\$5,327	\$829	\$983	-\$9
SCHUYLKILL VALLEY SD	-9.9	36	\$3,940	\$2,154	\$1,431	\$81
NEWPORT SD	-9.8	-110	\$4,236	\$2,491	\$967	\$37
NORTHWESTERN LEHIGH SD	-9.7	70	\$3,605	\$1,546	\$1,028	\$64
SOLANCO SD	-9.7	-124	\$1,893	\$1,604	\$758	\$58
PENNCREST SD	-9.5	-223	\$2,951	\$1,848	\$781	\$72
HIGHLANDS SD	-8.7	-27	\$1,805	\$1,184	\$691	\$31
HAMPTON TOWNSHIP SD	-8.3	-77	\$1,952	\$1,030	\$807	\$100
YORK SUBURBAN SD	-8.3	264	\$3,707	\$2,586	\$718	\$50
MOON AREA SD	-8.1	34	\$3,600	\$1,274	\$963	-\$221
NORTHERN POTTER SD	-8.0	-108	\$4,548	\$2,650	\$1,158	\$159
CRAWFORD CENTRAL SD	-7.7	-104	\$1,506	\$1,202	\$56	\$65
DALLASTOWN AREA SD	-6.8	600	\$3,221	\$1,913	\$724	\$63
JUNIATA VALLEY SD	-6.7	-36	\$2,353	\$1,013	\$771	\$64
Average	-11.3	-37	\$3,118	\$1,576	\$925	\$43

Change in % Pro/Adv Reading PSSA

	Change in %Pro/Adv Reading	Change in ADM	Change in Total Exp	Change in Inst Exp	Change in Suppt Exp	Change in Non- Inst Exp
Most Improved						
DUQUESNE CITY SD	35.7	-105	\$5,107	\$4,660	\$171	-\$118
LEECHBURG AREA SD	32.9	-76	\$2,243	\$1,023	\$957	\$205
OSWAYO VALLEY SD	32.3	-99	-\$6,359	\$1,783	\$1,565	\$134
CENTRAL FULTON SD	30.6	-30	\$3,500	\$2,178	\$820	\$61
BETHLEHEM-CENTER SD	29.2	-67	\$1,992	\$1,060	\$801	\$10
MORRISVILLE BOROUGH SD	29.1	-89	\$6,298	\$4,478	\$905	\$130
WESTERN WAYNE SD	28.0	-142	\$4,071	\$2,323	\$1,234	\$69
PANTHER VALLEY SD	27.4	215	\$1,546	\$939	\$442	-\$13
MEYERSDALE AREA SD	26.5	-152	\$3,103	\$1,420	\$1,424	\$67
SOUTHERN FULTON SD	26.1	-29	-\$4,887	\$1,106	\$894	\$39
RINGGOLD SD	25.7	-433	\$2,742	\$863	\$955	\$22
CORNELL SD	25.4	-48	\$2,088	\$1,172	\$1,043	\$250
FANNETT-METAL SD	25.0	-23	\$1,944	\$1,690	\$1,000	\$44
JAMESTOWN AREA SD	24.8	-87	\$3,075	\$1,506	\$1,161	\$13
NEW BRIGHTON AREA SD	24.7	-200	\$3,162	\$1,393	\$929	\$17
STEEL VALLEY SD	23.2	-136	\$2,404	\$1,009	\$1,251	\$110
WILLIAMSBURG COMMUNITY	22.3	-24	\$2,424	\$1,812	\$712	\$39
UNION CITY AREA SD	21.9	-73	\$3,070	\$2,062	\$965	\$31
KARNS CITY AREA SD	21.6	-149	\$2,317	\$1,422	\$744	\$34
SPRINGFIELD SD	21.6	115	\$3,350	\$1,684	\$880	\$53
POCONO MOUNTAIN SD	21.5	134	\$5,085	\$3,214	\$1,913	\$56
BERLIN BROTHERSVALLEY S	21.3	-8	\$2,038	\$512	\$581	-\$3
SAINT MARYS AREA SD	21.1	-178	\$1,799	\$936	\$757	\$72
EVERETT AREA SD	20.4	-83	\$2,004	\$1,326	\$581	\$14
WEST GREENE SD	20.0	-168	\$6,962	\$2,128	\$1,443	\$78
CRANBERRY AREA SD	19.9	-201	\$2,447	\$1,779	\$712	\$43
ROCKWOOD AREA SD	19.6	-29	\$1,943	\$1,271	\$417	\$6
OXFORD AREA SD	19.6	635	\$2,132	\$1,374	\$589	\$25
COLUMBIA BOROUGH SD	19.4	-58	\$4,548	\$2,605	\$1,313	\$77
GLENDALE SD	19.2	-67	\$1,911	\$515	\$894	\$121
Average	24.5	-55	\$2,469	\$1,708	\$935	\$56

	Change in %Pro/Adv Reading	Change in ADM	Change in Total Exp	Change in Inst Exp	Change in Suppt Exp	Change in Non- Inst Exp
Most Regressed						
NORTHERN POTTER SD	-27.3	-108	\$4,548	\$2,650	\$1,158	\$159
NORTHERN BEDFORD COUNTY	-21.7	30	\$1,055	\$1,033	\$609	\$19
UNION AREA SD	-14.8	101	\$859	\$164	\$435	\$79
STEELTON-HIGHSPIRE SD	-14.2	-61	\$4,480	\$2,298	\$1,230	\$22
ELLWOOD CITY AREA SD	-13.9	-205	\$2,871	\$918	\$914	\$33
SOLANCO SD	-13.7	-124	\$1,893	\$1,604	\$758	\$58
WILKES-BARRE AREA SD	-13.7	354	\$2,183	\$797	\$865	\$19
SALISBURY-ELK LICK SD	-13.6	-68	\$542	\$549	\$1,267	\$78
CORRY AREA SD	-13.4	-174	\$4,461	\$1,032	\$974	\$145
KUTZTOWN AREA SD	-13.3	-154	\$4,784	\$2,330	\$1,606	\$65
WEATHERLY AREA SD	-13.1	-8	-\$3,536	\$1,109	\$1,233	\$0
GREENVILLE AREA SD	-11.9	-86	\$1,920	\$1,016	\$601	-\$21
SOUTH ALLEGHENY SD	-11.9	-165	\$3,083	\$1,662	\$765	\$44
LEHIGHTON AREA SD	-11.1	-73	\$2,192	\$2,030	\$603	-\$102
GOVERNOR MIFFLIN SD	-10.9	108	\$3,336	\$1,280	\$959	\$66
DERRY TOWNSHIP SD	-10.8	119	\$2,540	\$1,087	\$1,180	\$17
MIDDLETOWN AREA SD	-10.7	-184	\$4,037	\$1,622	\$1,003	-\$105
DANVILLE AREA SD	-10.6	-182	\$2,815	\$2,118	\$737	\$38
SHANKSVILLE-STONYCREEK	-10.2	-72	\$2,291	\$2,118	\$1,402	\$87
BENTWORTH SD	-10.2	-3	\$1,853	\$724	\$771	\$97
WEST BRANCH AREA SD	-10.1	-77	\$1,044	\$1,459	\$446	-\$25
DERRY AREA SD	-9.9	-269	\$2,649	\$1,452	\$758	\$65
COUDERSPORT AREA SD	-9.7	-81	\$5,327	\$829	\$983	-\$9
DANIEL BOONE AREA SD	-9.4	488	\$3,009	\$1,554	\$758	-\$1
GENERAL MCLANE SD	-8.9	-266	\$7,517	\$1,159	\$1,153	-\$61
UPPER MORELAND TOWNSHIP	-8.9	-11	\$2,190	\$1,332	\$792	\$14
MOON AREA SD	-8.5	34	\$3,600	\$1,274	\$963	-\$221
MOHAWK AREA SD	-8.3	-379	\$2,334	\$1,639	\$870	\$71
ANNVILLE-CLEONA SD	-8.1	-82	\$3,645	\$1,633	\$922	-\$153
CENTRAL GREENE SD	-8.0	-213	\$3,085	\$1,274	\$1,015	\$33
Average	-12.0	-60	\$2,754	\$1,392	\$924	\$17

Change in % Adv Reading PSSA

	Change	Change	Change	Change	Change	Change
	in	in ADM	in Total	in Inst	in Suppt	in Non-
	%Adv		Exp	Exp	Exp	Inst Exp
	Reading					
Most Improved		_	**	* - * -	** ***	* • •
GREENWOOD SD	33.7	7	\$3,400	\$1,731	\$1,106	\$44
MONESSEN CITY SD	27.1	-129	\$4,916	\$3,058	\$1,231	\$46
LEECHBURG AREA SD	25.2	-76	\$2,243	\$1,023	\$957	\$205
SPRINGFIELD SD	25.1	115	\$3,350	\$1,684	\$880	\$53
KARNS CITY AREA SD	24.9	-149	\$2,317	\$1,422	\$744	\$34
JENKINTOWN SD	24.1	25	\$5,491	\$2,277	\$1,707	\$13
MEYERSDALE AREA SD	24	-152	\$3,103	\$1,420	\$1,424	\$67
CALIFORNIA AREA SD	23.8	-54	\$2,608	\$1,448	\$912	\$152
BETHLEHEM-CENTER SD	23.6	-67	\$1,992	\$1,060	\$801	\$10
LAKELAND SD	23.2	43	\$1,043	\$792	\$369	\$33
CAMBRIA HEIGHTS SD	22.9	-57	\$1,101	\$460	\$582	\$60
RINGGOLD SD	22.6	-433	\$2,742	\$863	\$955	\$22
WESTERN WAYNE SD	22.5	-142	\$4,071	\$2,323	\$1,234	\$69
EVERETT AREA SD	21.9	-83	\$2,004	\$1,326	\$581	\$14
UPPER MERION AREA SD	21.7	285	\$832	\$1,473	\$1,094	\$52
PENNS VALLEY AREA SD	21.1	-58	\$2,860	\$1,343	\$1,013	-\$7
CORNELL SD	20.7	-48	\$2,088	\$1,172	\$1,043	\$250
BLOOMSBURG AREA SD	20.4	-86	\$2,404	\$1,260	\$843	\$56
WASHINGTON SD	19.9	-346	\$3,508	\$2,430	\$972	\$92
ABINGTON HEIGHTS SD	19.7	-163	\$2,140	\$1,291	\$618	\$36
PINE GROVE AREA SD	19.5	-19	\$3,578	\$1,214	\$638	\$40
ALLEGHENY VALLEY SD	19.4	-93	\$4,130	\$1,277	\$998	\$119
LIGONIER VALLEY SD	19.2	-195	\$2,997	\$1,576	\$1,046	\$67
CURWENSVILLE AREA SD	18.9	-114	\$3,883	\$1,048	\$972	\$77
SHENANGO AREA SD	18.7	-82	\$1,760	\$1,520	\$533	-\$34
AVON GROVE SD	18.5	632	\$1,505	\$1,572	\$299	\$148
ROCKWOOD AREA SD	18.4	-29	\$1,943	\$1,271	\$417	\$6
NEW KENSINGTON-ARNOLD S	18.3	-231	\$3,995	\$2,233	\$1,456	\$121
SELINSGROVE AREA SD	18.1	-122	\$84	\$1,236	\$666	\$1
QUAKERTOWN COMMUNITY SD	18.1	182	\$4,049	\$2,143	\$1,195	\$0
Average	21.8	-55	\$2,738	\$1,498	\$909	\$62

	Change in %Adv Reading	Change in ADM	Change in Total Exp	Change in Inst Exp	Change in Suppt Exp	Change in Non- Inst Exp
Most Regressed	1	r.	r	r	n	
UNION AREA SD	-16.8	101	\$859	\$164	\$435	\$79
IROQUOIS SD	-16.4	19	\$3,384	\$1,822	\$636	\$83
DANVILLE AREA SD	-13.2	-182	\$2,815	\$2,118	\$737	\$38
FRAZIER SD	-13.1	52	\$1,944	\$1,480	\$660	\$41
NORTH STAR SD	-13	-176	-\$2,591	\$1,332	\$1,248	\$56
SALISBURY-ELK LICK SD	-12.9	-68	\$542	\$549	\$1,267	\$78
YORK SUBURBAN SD	-12.3	264	\$3,707	\$2,586	\$718	\$50
TURKEYFOOT VALLEY AREA	-12	4	\$1,618	\$1,261	\$369	\$39
NESHANNOCK TOWNSHIP SD	-11.9	55	\$2,701	\$993	\$974	\$36
WILMINGTON AREA SD	-11.3	-126	\$2,020	\$1,105	\$631	\$95
COUDERSPORT AREA SD	-10	-81	\$5,327	\$829	\$983	-\$9
GENERAL MCLANE SD	-9.9	-266	\$7,517	\$1,159	\$1,153	-\$61
MIDDLETOWN AREA SD	-9.8	-184	\$4,037	\$1,622	\$1,003	-\$105
WILLIAMS VALLEY SD	-9.8	-94	\$3,644	\$2,618	\$921	\$76
CRESTWOOD SD	-9.4	303	\$1,681	\$1,169	\$434	\$17
DERRY TOWNSHIP SD	-9.3	119	\$2,540	\$1,087	\$1,180	\$17
ALLEGHENY-CLARION VALLE	-8.9	-112	\$3,812	\$2,612	\$1,146	\$6
WILKES-BARRE AREA SD	-8.8	354	\$2,183	\$797	\$865	\$19
MONITEAU SD	-8.7	-56	\$2,124	\$1,270	\$655	\$199
NEWPORT SD	-8.5	-110	\$4,236	\$2,491	\$967	\$37
HANOVER PUBLIC SD	-8.4	-41	\$3,625	\$2,247	\$823	\$67
BERMUDIAN SPRINGS SD	-7.9	-76	\$3,121	\$1,563	\$775	\$74
ANTIETAM SD	-7.9	-26	\$3,468	\$1,600	\$1,302	\$81
CENTRAL COLUMBIA SD	-7.7	-137	\$2,626	\$1,270	\$695	-\$51
DALLASTOWN AREA SD	-7.6	600	\$3,221	\$1,913	\$724	\$63
MUHLENBERG SD	-7.5	480	\$1,691	\$739	\$565	\$37
LOWER MORELAND TOWNSHIP	-7.4	339	\$2,631	\$1,491	\$597	-\$6
HAMBURG AREA SD	-7.1	-174	\$4,852	\$1,779	\$1,203	\$7
MOON AREA SD	-6.5	34	\$3,600	\$1,274	\$963	-\$221
DERRY AREA SD	-6.3	-269	\$2,649	\$1,452	\$758	\$65
Average	-10	18	\$2,853	\$1,480	\$846	\$30

Districts on multiple lists of most improved/regressed. The next set of lists give groupings of school districts that showed up on multiple lists of most improved and most regressed, beginning here with being on the lists for changes in both the % proficient/advanced and % advanced on the PSSA math.

Schools that were Most **Improved** in %Pro/Adv Math and %Adv Math

BANGOR AREA SD BRADFORD AREA SD BROWNSVILLE AREA SD CALIFORNIA AREA SD CENTRAL FULTON SD EAST LYCOMING SD EVERETT AREA SD GREENWOOD SD HARMONY AREA SD LAKELAND SD OSWAYO VALLEY SD SHARPSVILLE AREA SD SOUTHERN FULTON SD Schools that were Most **Regressed** in %Pro/Adv Math and %Adv Math

CLARION AREA SD COUDERSPORT AREA SD CRAWFORD CENTRAL SD DERRY AREA SD DERRY TOWNSHIP SD FRAZIER SD HIGHLANDS SD **INDIANA AREA SD** MONTROSE AREA SD MOSHANNON VALLEY SD NEWPORT SD NORTHERN POTTER SD NORTHGATE SD NORTHWESTERN LEHIGH SD **RICHLAND SD** SCHUYLKILL VALLEY SD **TYRONE AREA SD** UPPER PERKIOMEN SD

Schools that were Most **Improved** in %Pro/Adv Reading and %Adv Reading

BETHLEHEM-CENTER SD CORNELL SD EVERETT AREA SD KARNS CITY AREA SD LEECHBURG AREA SD MEYERSDALE AREA SD RINGGOLD SD ROCKWOOD AREA SD SPRINGFIELD SD WESTERN WAYNE SD Schools that were Most **Regressed** in <u>%Pro/Adv Reading</u> and %Adv Reading

COUDERSPORT AREA SD DANVILLE AREA SD DERRY AREA SD DERRY TOWNSHIP SD GENERAL MCLANE SD MIDDLETOWN AREA SD MOON AREA SD SALISBURY-ELK LICK SD UNION AREA SD WILKES-BARRE AREA SD Schools that were Most **Improved** in <u>%Pro/Adv Math and %Pro/Adv Reading</u>

BERLIN BROTHERSVALLEY S CENTRAL FULTON SD EVERETT AREA SD MEYERSDALE AREA SD OSWAYO VALLEY SD POCONO MOUNTAIN SD SAINT MARYS AREA SD SOUTHERN FULTON SD WEST GREENE SD WILLIAMSBURG COMMUNITY Schools that were Most **Improved** in %Adv Math and %Adv Reading

CALIFORNIA AREA SD EVERETT AREA SD GREENWOOD SD LAKELAND SD LIGONIER VALLEY SD MONESSEN CITY SD SHENANGO AREA SD WASHINGTON SD

Schools that were Most **Regressed** in %Pro/Adv Math and %Pro/Adv Reading

ANNVILLE-CLEONA SD COUDERSPORT AREA SD DERRY AREA SD DERRY TOWNSHIP SD GENERAL MCLANE SD GREENVILLE AREA SD NORTHERN POTTER SD SHANKSVILLE-STONYCREEK Schools that were Most **Regressed** in %Adv Math and %Adv Reading

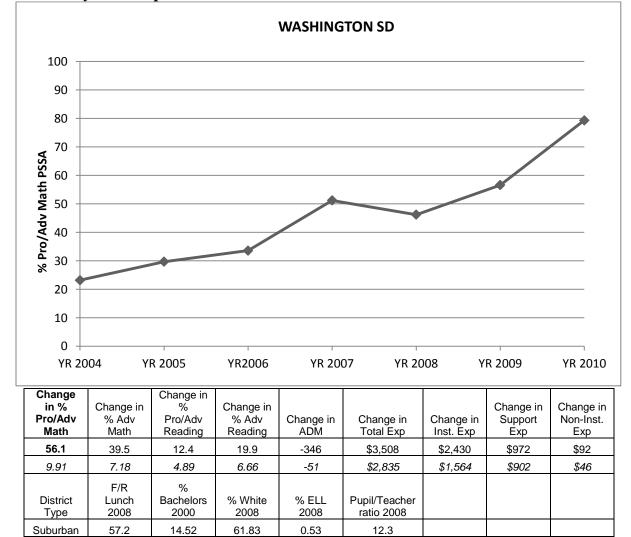
CENTRAL COLUMBIA SD COUDERSPORT AREA SD DALLASTOWN AREA SD DERRY AREA SD DERRY TOWNSHIP SD FRAZIER SD MOON AREA SD NEWPORT SD WILKES-BARRE AREA SD WILMINGTON AREA SD YORK SUBURBAN SD

Schools that were Most **Improved** in %Pro/Adv and %Adv Math, and %Pro/Adv and %Adv Reading

EVERETT AREA SD

Schools that were Most **Regressed** in <u>%Pro/Adv and %Adv Math, and</u> <u>%Pro/Adv and %Adv Reading</u>

COUDERSPORT AREA SD DERRY AREA SD DERRY TOWNSHIP SD **Profiles of consistently improving/regressing districts.** The next 32 graphs are examples of districts that have improved and regressed the most on all four measures of the 11th grade PSSA from 2004 to 2010. These districts have been chosen because their change from 2004 to 2010 was not a one year jump, but a trend over the past 6 years. In other words, we tried to select school districts for these profiles whose graphs either continue to increase or decrease over time. Any one of these districts would be an interesting study. Why would one district rise 30 percentage points while another drop 20? Under each graph are values for the district on all four of the PSSA measures, the changes in finances, and other school and community variables. The numbers in italics are the state averages. This has been done so that one can see if a given districts is above or below the average for any of the variables that have been used in this report. There is really no pattern, however, beyond those explained previously.



1.13

14.16

Consistently Most Improved Districts in % Pro/Adv Math PSSA

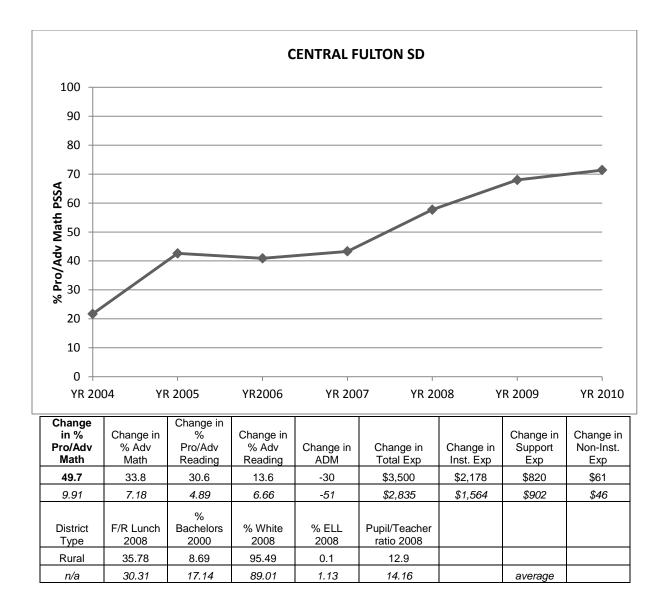
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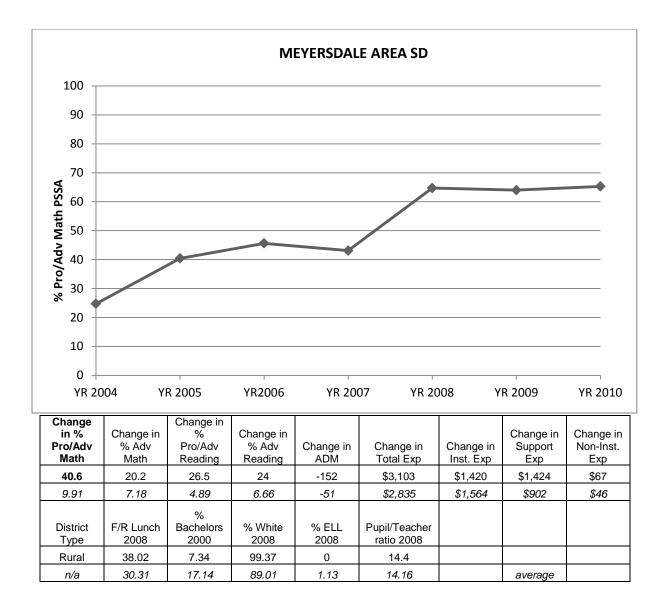
30.31

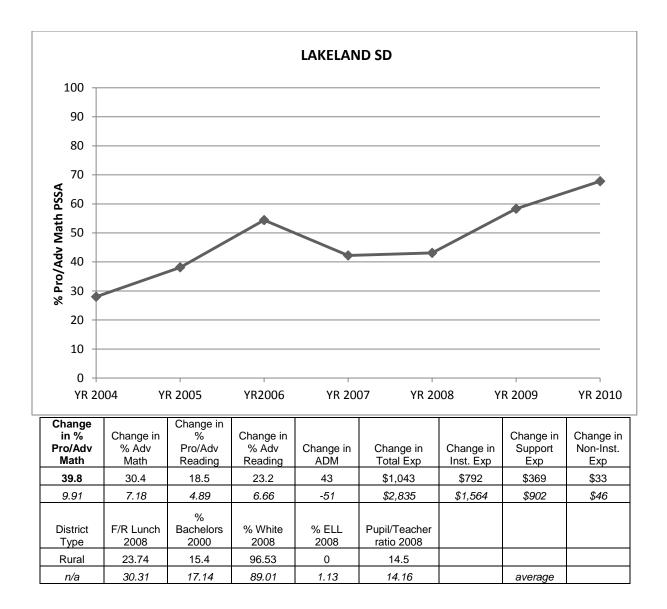
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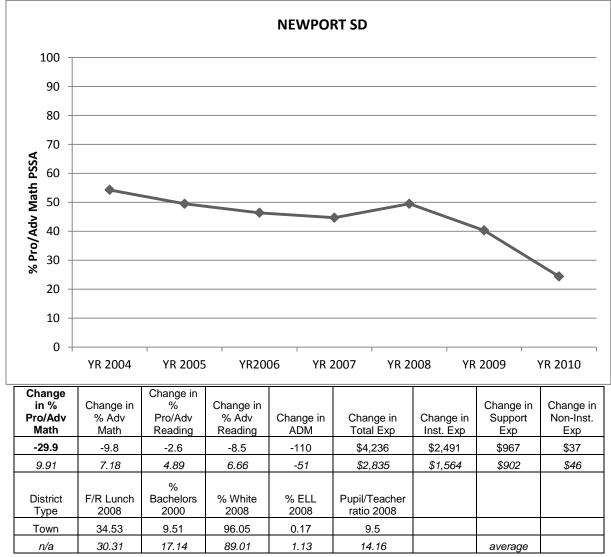
89.01

average

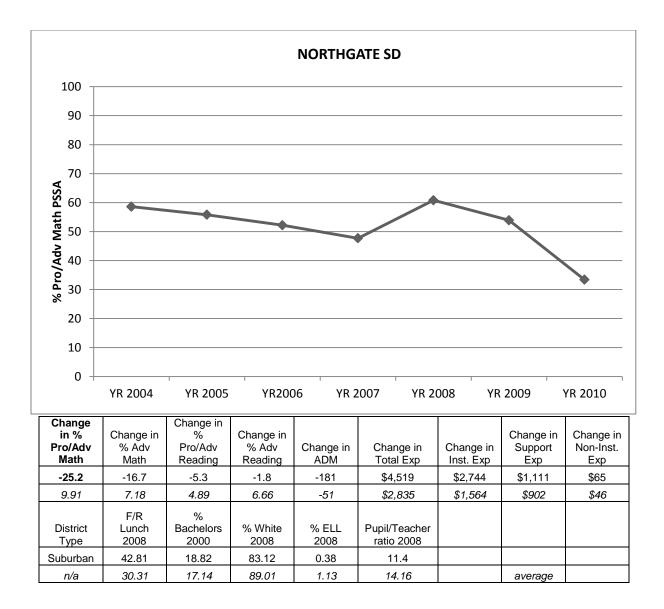


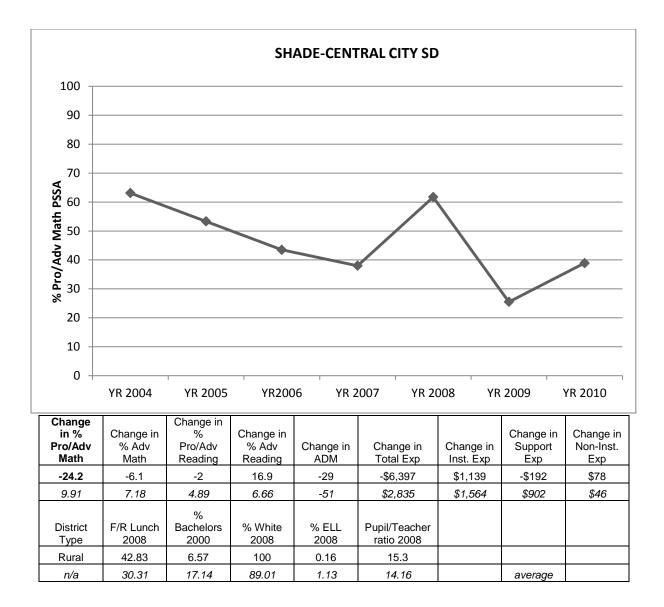


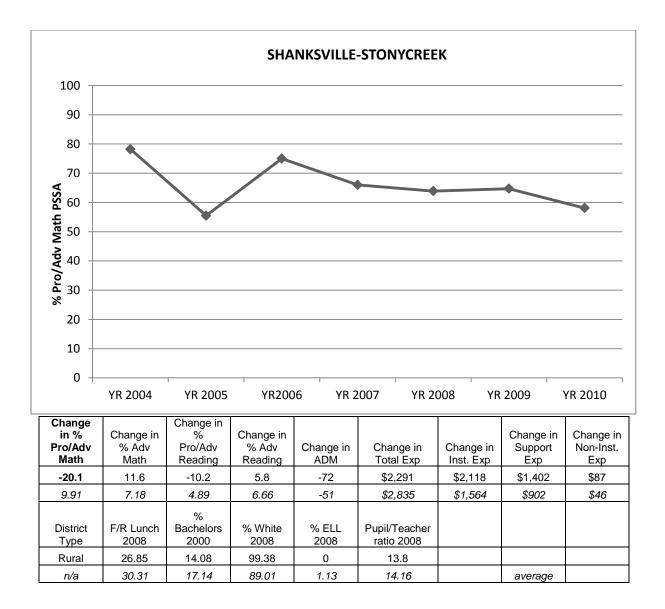


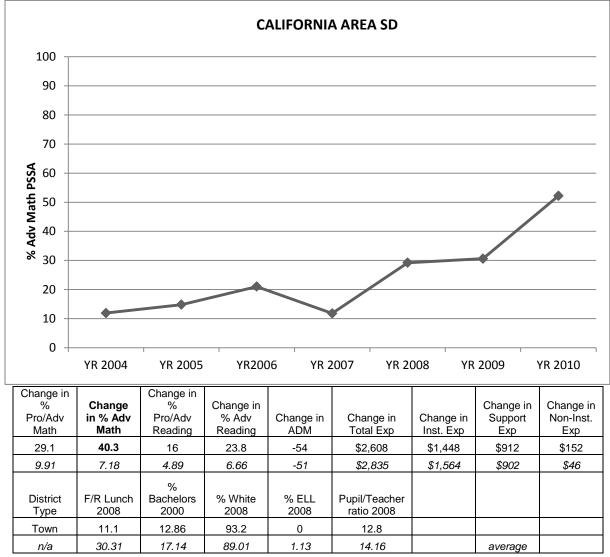


Consistently Most Regressed Districts in % Pro/Adv Math PSSA

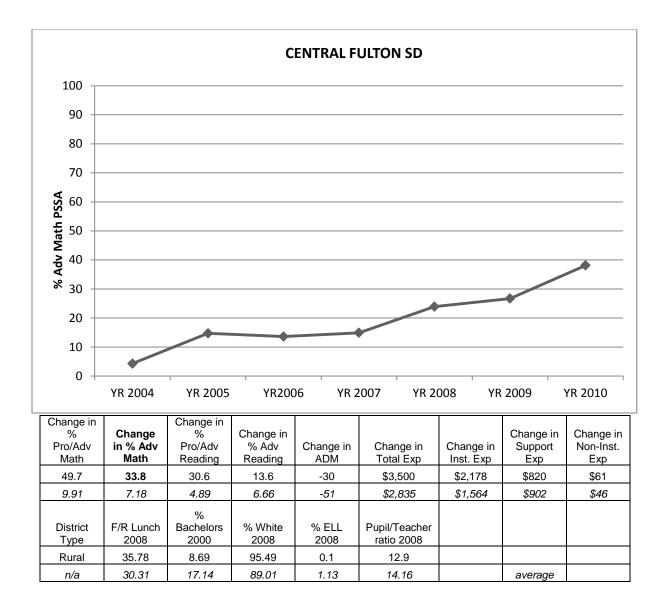


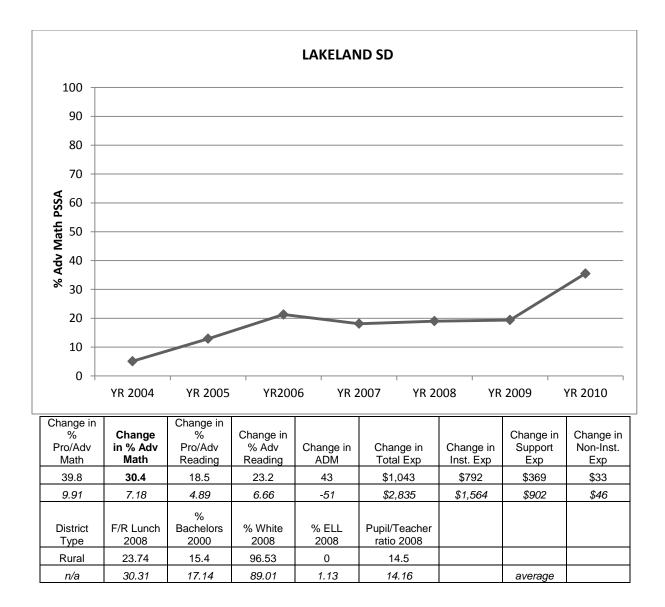


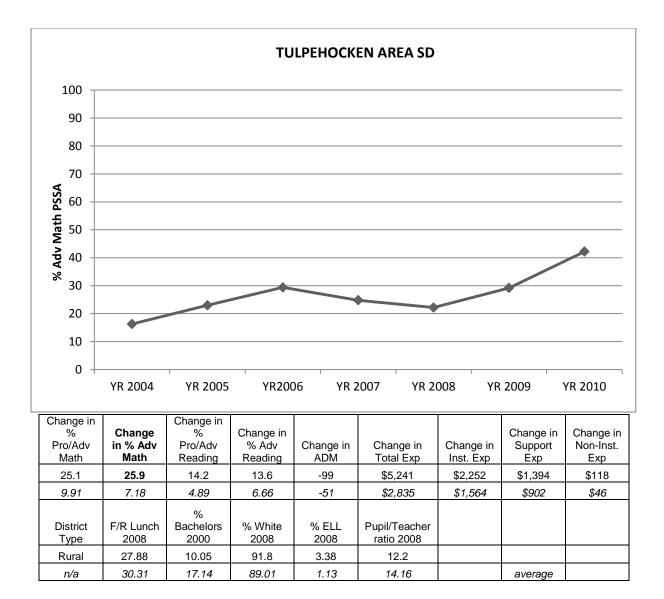


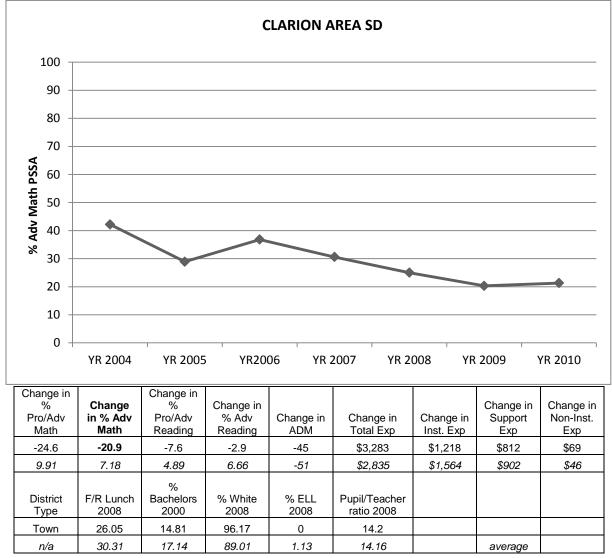


Consistently Most Improved Districts in % Adv Math PSSA

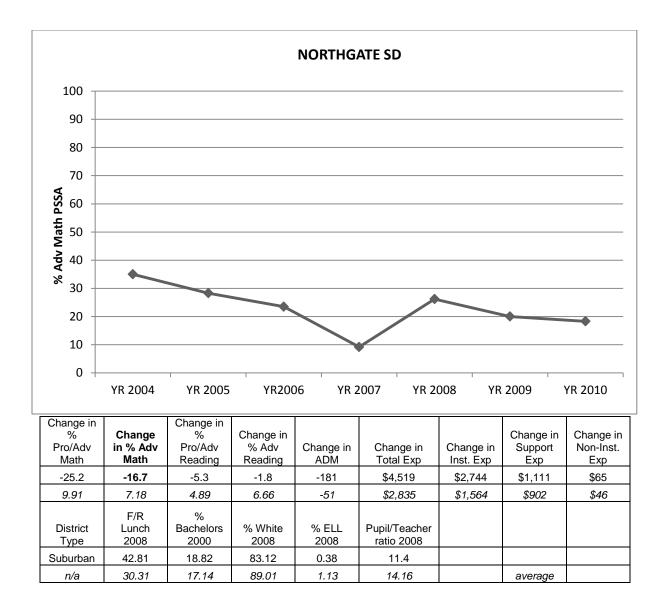


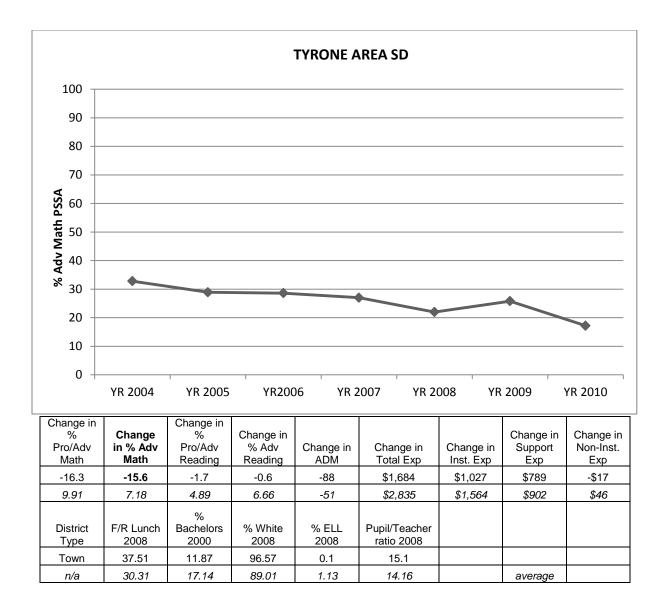


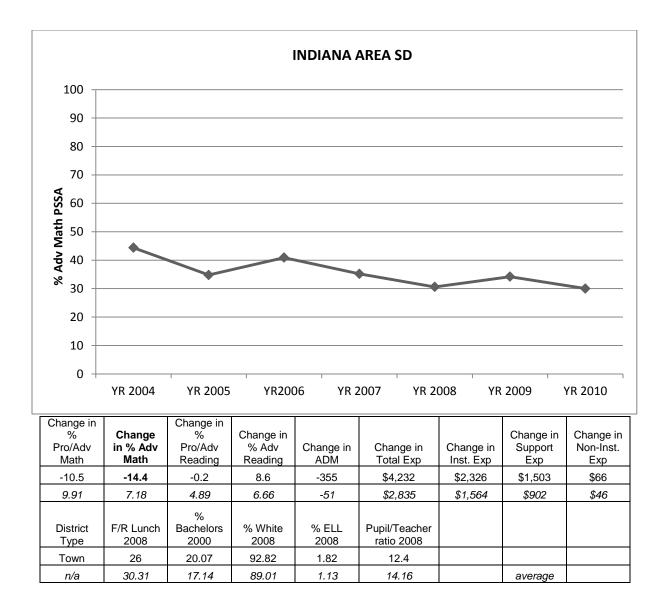


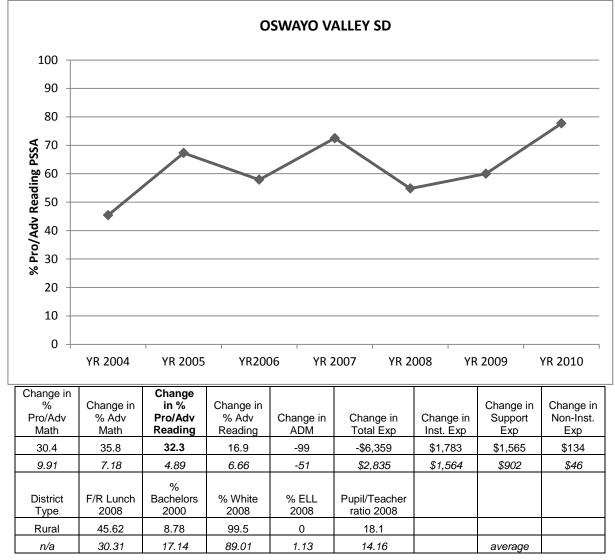


Consistently Most Regressed Districts in % Adv Math PSSA

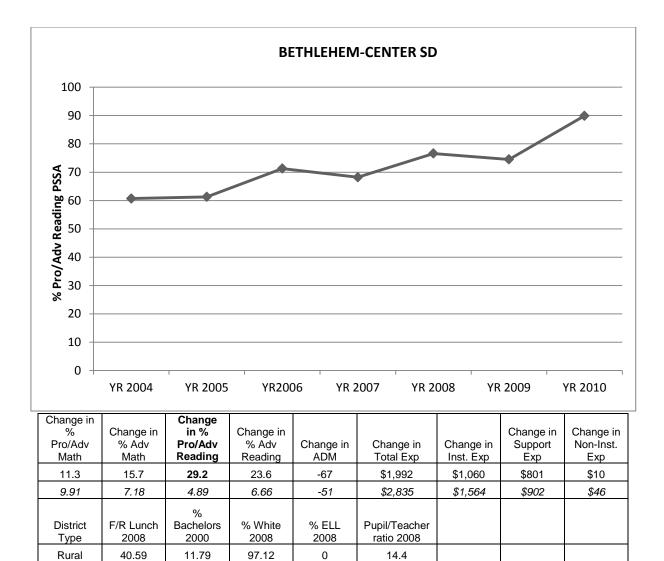








Consistently Most Improved Districts in % Pro/Adv Reading PSSA



1.13

14.16

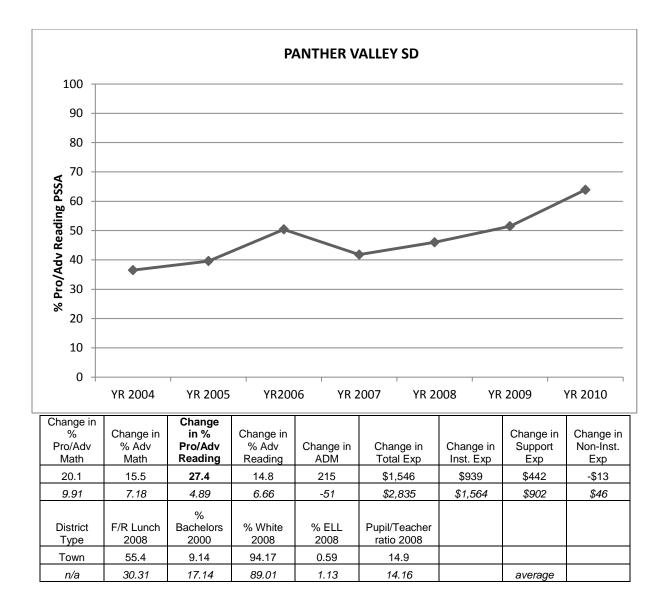
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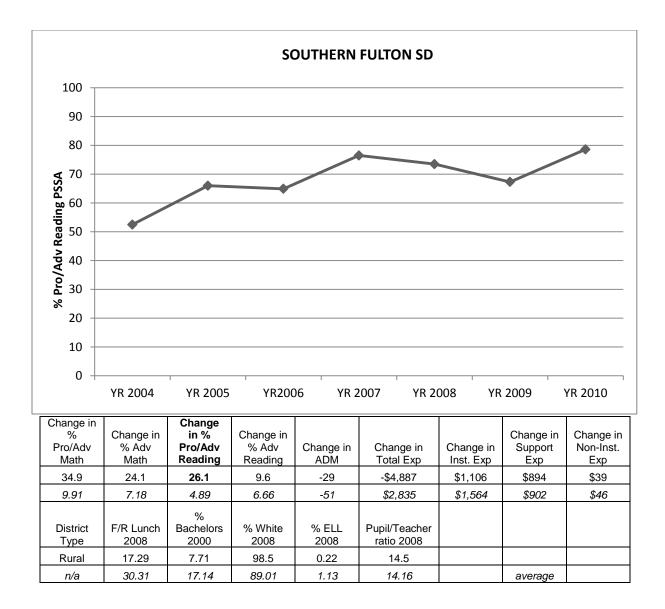
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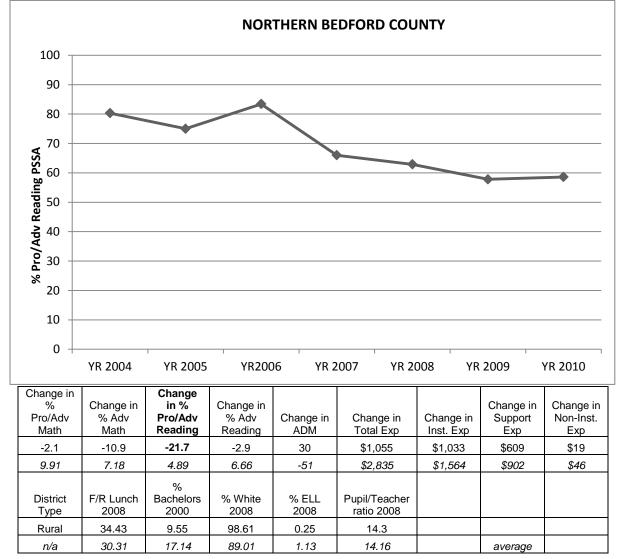
30.31

17.14

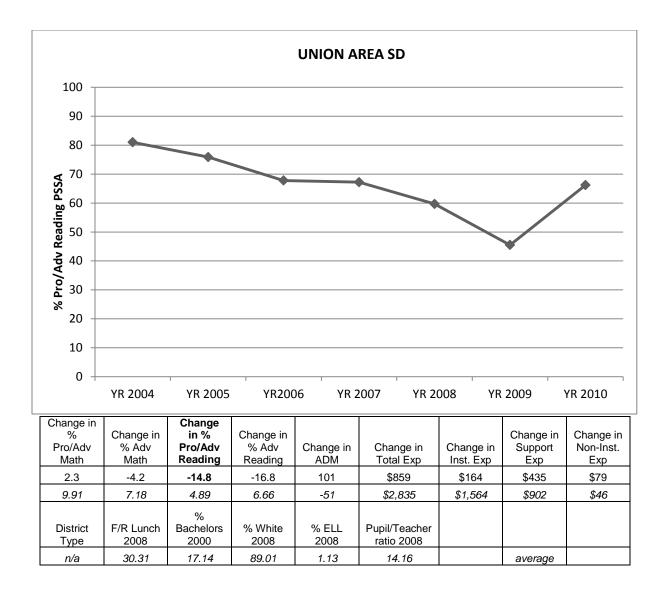
89.01

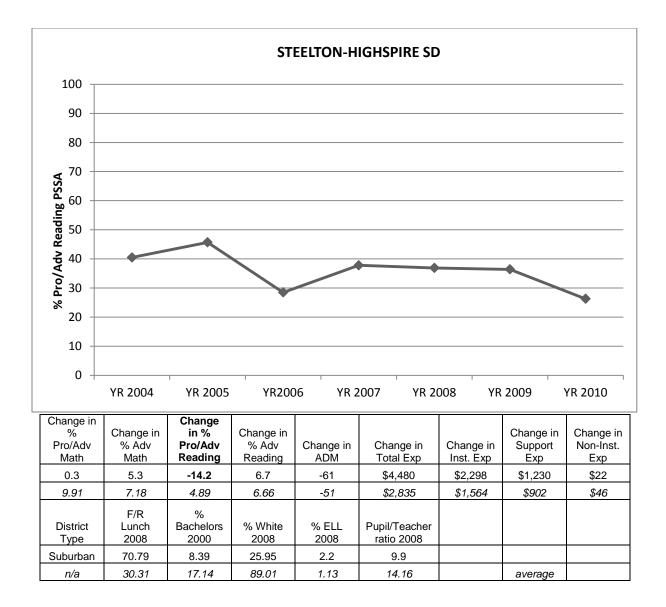


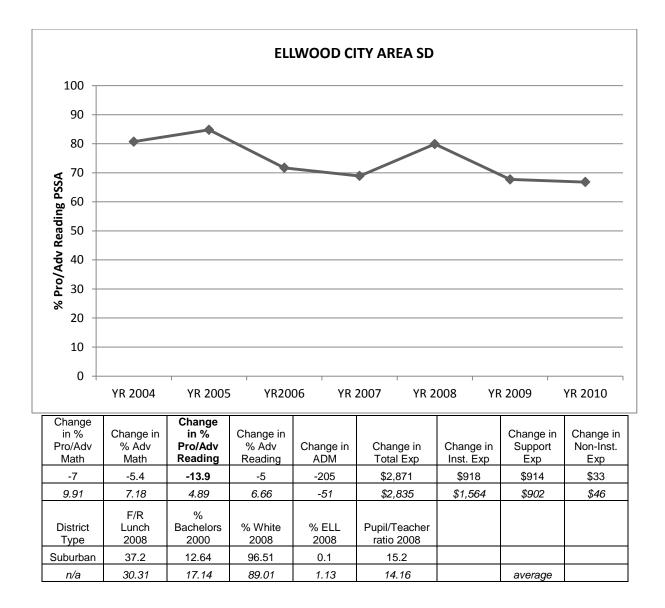


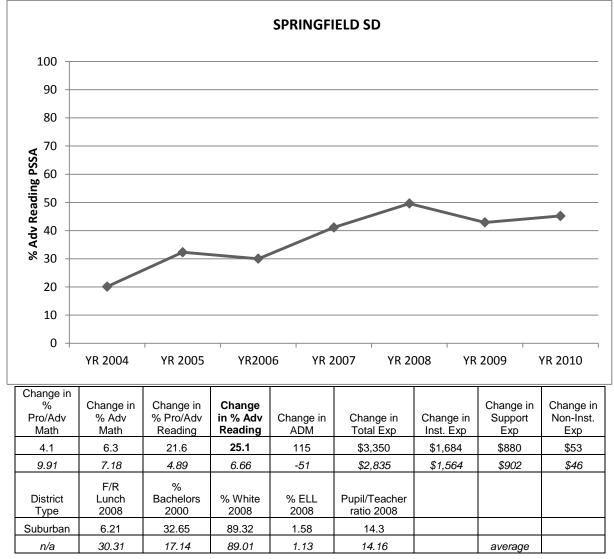


Consistently Most Regressed Districts in % Pro/Adv Reading PSSA

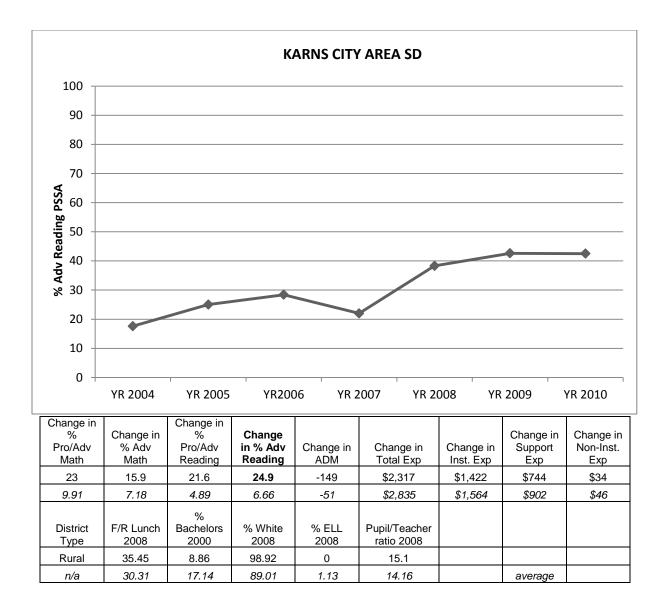


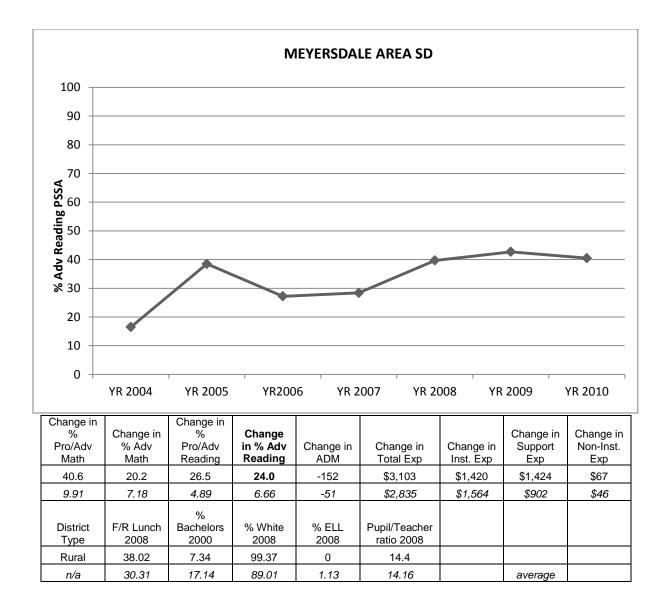


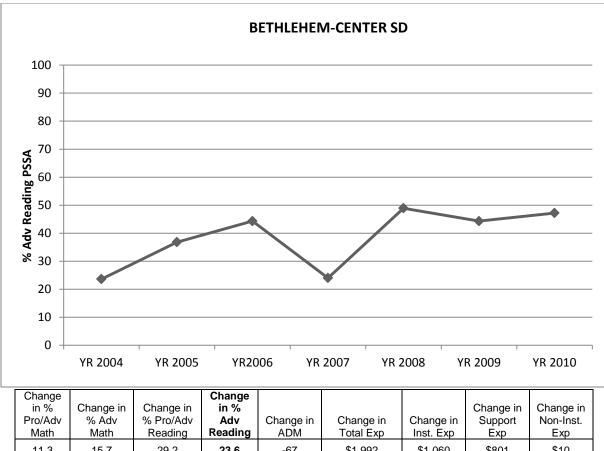




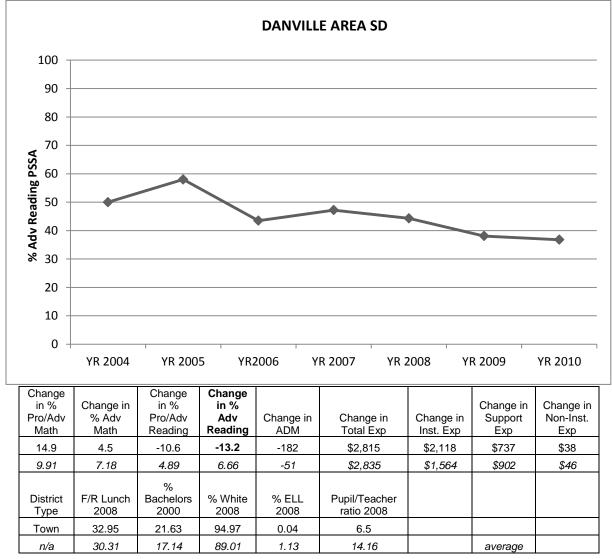
Consistently Most Improved Districts in % Adv Reading PSSA



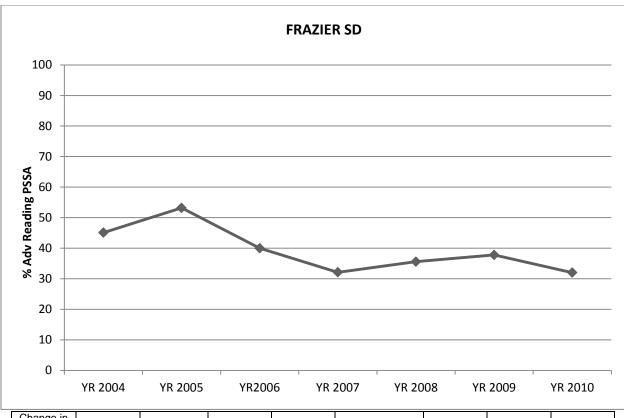




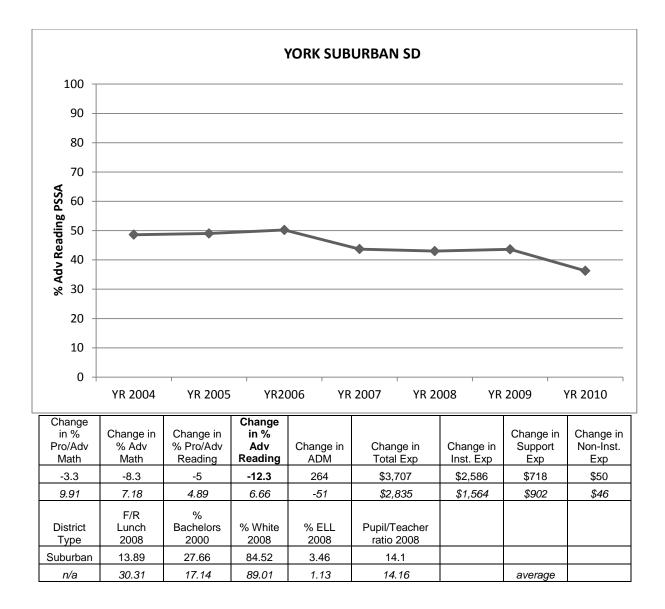
Math	Math	Reading	Reading	ADM	l otal Exp	Inst. Exp	Exp	Exp
11.3	15.7	29.2	23.6	-67	\$1,992	\$1,060	\$801	\$10
9.91	7.18	4.89	6.66	-51	\$2,835	\$1,564	\$902	\$46
		%						
District Type	F/R Lunch 2008	Bachelors 2000	% White 2008	% ELL 2008	Pupil/Teacher ratio 2008			
Rural	40.59	11.79	97.12	0	14.4			
n/a	30.31	17.14	89.01	1.13	14.16		average	

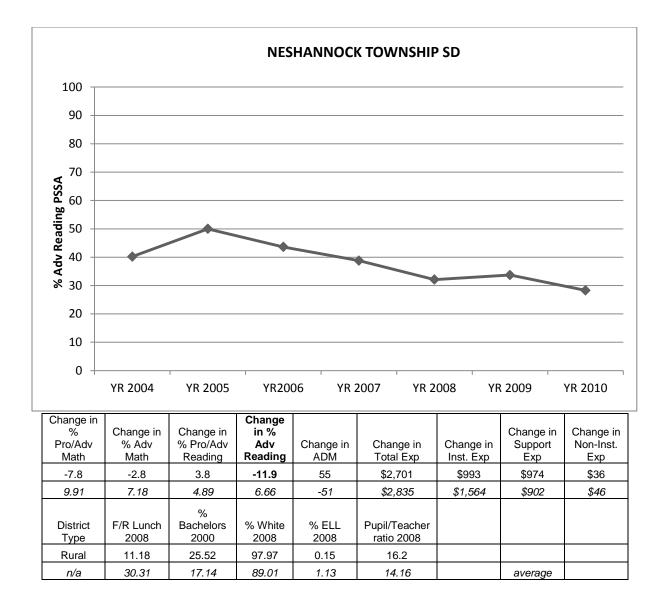


Consistently Most Regressed Districts in % Adv Reading PSSA



Change in % Pro/Adv	Change in % Adv	Change in % Pro/Adv	Change in % Adv	Change in	Change in	Change in	Change in Support	Change in Non-Inst.
Math	Math	Reading	Reading	ADM	Total Exp	Inst. Exp	Exp	Exp
-11.7	-13.6	-0.8	-13.1	52	\$1,944	\$1,480	\$660	\$41
9.91	7.18	4.89	6.66	-51	\$2,835	\$1,564	\$902	\$46
District Type	F/R Lunch 2008	% Bachelors 2000	% White 2008	% ELL 2008	Pupil/Teacher ratio 2008			
Rural	39.13	10.81	97.21	0.17	13.4			
n/a	30.31	17.14	89.01	1.13	14.16		average	





Descriptive statistics. We end the report with descriptive statistics for all of the variables used in the above tables. There are a couple of things to note. All PSSA scores are for 11^{th} grade tests. In 2010, the number of districts in PA changed from 498 to 497 districts who give the PSSA to high school students. To make the data comparable from 2004 to 2010, weighted averages were taken for the two districts that merged into Central Valley SD so that the N for all years of data is 497.

	Mean	SD	Min	Max
% Pro/Adv PSSA Math 2004	51.33	14.26	2.60	89.80
% Adv PSSA Math 2004	24.73	11.80	0.00	68.10
% Pro/Adv PSSA Reading 2004	64.06	12.61	2.60	92.70
% Adv PSSA Reading 2004	27.35	10.92	0.00	61.20
Number Scored 2005	247	480	14	10005
% Pro/Adv PSSA Math 2005	52.82	14.14	4.90	88.80
% Adv PSSA Math 2005	26.29	11.76	0.00	70.20
% Pro/Adv PSSA Reading 2005	69.09	11.98	18.00	95.40
% Adv PSSA Reading 2005	35.44	11.71	3.00	73.40
Number scored in 2006	252	463	22	9565
% Pro/Adv PSSA Math 2006	53.37	13.69	7.40	89.60
Adv PSSA Math 2006	27.78	11.58	2.00	69.00
% Pro/Adv PSSA Reading 2006	67.94	11.85	19.70	96.50
% Adv PSSA Reading 2006	32.11	11.46	2.00	75.30
Number Scored 2007	255	457	19	9333
% Pro/Adv PSSA Math 2007	54.78	13.27	3.30	90.00
% Adv PSSA Math 2007	23.59	10.50	0.00	62.10
% Pro/Adv PSSA Reading 2007	67.93	11.48	9.40	94.10
% Adv PSSA Reading 2007	29.32	10.66	0.00	66.70
Number Scored 2008	253	445	22	9099
% Pro/Adv PSSA Math 2008	57.34	13.23	3.30	90.20
% Adv PSSA Math 2008	25.51	11.26	0.00	66.10
% Pro/Adv PSSA Reading 2008	67.24	11.86	10.60	94.20
% Adv PSSA Reading 2008	32.55	11.36	1.70	74.20
Number Scored 2009	254	472	15	9721
% Pro/Adv PSSA Math 2009	57.20	12.60	5.40	91.50
% Adv PSSA Math 2009	25.30	10.69	0.00	68.60
% Pro/Adv PSSA Reading 2009	66.94	11.72	18.20	95.00
% Adv PSSA Reading 2009	33.01	11.70	0.00	75.60
Number Scored 2010	249	480	16	9951
% Pro/Adv PSSA Math 2010	61.24	13.28	7.20	94.40
% Adv PSSA Math 2010	31.90	12.12	2.40	76.80
% Pro/Adv PSSA Reading 2010	68.95	11.20	17.10	94.80
% Adv PSSA Reading 2010	34.01	11.45	1.40	75.30
Change in % Pro/Adv Math 04-10	9.91	11.94	-29.90	56.10
Change in % Adv Math 04-10	7.18	9.38	-20.90	40.30
Change in % Pro/Adv Reading 04-10	4.89	8.82	-27.30	35.70
Change in % Adv Reading 04-10	6.66	7.81	-16.80	33.70

	Mean	SD	Min	Max
Average Daily Membership 2004	3638	9866	253	212732
Instruction Expenditure per ADM 2004	\$5,796	\$888	\$4,106	\$9,882
Support Ser Expenditure per ADM 2004	\$3,003	\$595	\$1,917	\$6,492
Non-Inst Expenditure per ADM 2004	\$186	\$88	\$0	\$666
Total Expenditure per ADM 2004	\$10,247	\$2,041	\$7,336	\$22,248
Average Daily Membership 2009	\$3,587	\$9,575	\$192	\$206,282
Instruction Expenditure per ADM 2009	\$7,360	\$1,224	\$5,242	\$12,984
Support Ser Expenditure per ADM 2009	\$3,905	\$761	\$2,359	\$7,998
Non-Inst Expenditure per ADM 2009	\$232	\$115	\$0	\$985
Total Expenditure per ADM 2009	\$13,082	\$2,293	\$9,224	\$25,714
Change in Total Expenditures	\$2,835	\$1,718	-\$9,124	\$13,096
Change in Instructional Expenditures	\$1,564	\$609	-\$39	\$4,660
Change in Support Expenditures	\$902	\$346	-\$192	\$2,191
Change in Non-Inst Expenditures	\$46	\$58	-\$221	\$480
% eligible for free/reduced lunch 2008	30.31%	15.96%	1.26%	95.41%
% people over 22 with 4-year degree 2000	17.14%	10.42%	4.94%	64.14%
% of district students that are white 2008	89.01%	16.59%	1.03%	100.00%
% ELL enrollment 2008	1.13%	2.22%	0.00%	21.88%
Pupil teacher ratio 2008	14.16	2.30	4.60	22.10

At the bottom of both tables, we see changes in the achievement and financial variables. It is important to note that the districts have on average, over the past 6 years, improved on all PSSA measures for the 11th grade. Expenditures have also grown considerably. However, as we found in our other report, we find that there is little to no difference between those changes in expenditure and change in achievement.

Data Sources:

PDE website (http://www.education.state.pa.us/):

PSSA scores, by district, for 11th grade math and reading (2004-2010) District financial information, by district (2004-2009) Average Daily Membership (2004-2009)

<u>Common Core of Data website</u> (http://nces.ed.gov/ccd/):

District Type % Free/reduced lunch (2008) % Bachelors (2000) % White (2008) % ELL (2008) Pupil/Teacher ratio (2008)



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