



Many Children Left Behind

**How Title I Weighted Grant Formulas
Favor the Few at the Expense of the
Many in Pennsylvania**

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How Title I Weighted Grant Formulas Favor the Few at the Expense of the Many in Pennsylvania

Marty Strange¹, Jerry Johnson and Ashton Finical
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The Issue

Since 2002, some of the federal funds provided to local school districts under Title I of the Elementary and Secondary Education Act (also known as the No Child Left Behind Act) have been distributed through two “weighted” grant formulas intended to better target funding to districts with the highest concentrations of poverty. While this is a worthy purpose, these weighted grant formulas have also produced some perverse effects. Under the weighted grants, these effects can occur:

- ◆ Per pupil funding for a Title I student in a large school district is greater than that for a Title I student in a smaller district with the same poverty rate.
- ◆ Total funding for Title I students who attend one large district is greater than that for the same number of Title I students who are dispersed in many smaller districts, even though the smaller districts have the same aggregate poverty rate as the large district.
- ◆ Per pupil funding for a Title I student in a larger district with less poverty may be greater than that for a Title I student in a smaller district with more poverty.

These effects are caused by a provision in two Title I grant programs – known as the Targeted Grant Program and the Educational Finance Incentive Grant Program -- that weights the student count used to determine a school district’s share of the grant funds. Under this provision, a district’s Title I student count is calculated using two alternative weighting systems, one based on the **percentage of students** and one based on the **absolute number of students** who are Title I eligible. Whichever approach gives a district the larger weighted student count is the one ultimately used for that district in the formula. The alternative of using the number weighting system rather than the percentage weighting system provides very large districts with higher per pupil benefits at the expense of all smaller districts.

That is because the number of Title I students in a school district does not directly determine the amount of Title I funding that district receives. Instead, it determines the relative share of the money appropriated by Congress that will be allocated to that district. Each increase in weighted count received by any district decreases the relative share available to other districts. It is a zero-sum game that favors very large districts.

Tables 1 and 2 present the brackets used in each system. For each district, the first 691 eligible students under the “number” weighting system are each counted as one student before additional students are counted at higher weights in each successively higher bracket. Under the “percentage” weighting system, the first bracket includes the

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Title I eligible students who constitute up to 15.58 percent of the district’s students, each counting only once in the formula. Districts with higher percentages of Title I students have students in the higher brackets, each counted at higher weights.

Table 1 - Weighting Brackets Based on Percentage of Eligible Students

Percentage of Students Who Are Eligible	Weight Given Each Student in Bracket
Up to 15.58	1.00
15.59 - 22.11	1.75
22.12 - 30.16	2.50
30.17 - 38.24	3.25
38.25 and up	4.00

Table 2 - Weighting Brackets Based on Number of Eligible Students

Number of Eligible Students	Weight Given Each Student in Bracket
1 - 691	1.00
692 - 2,262	1.50
2,263 - 7,851	2.00
7,852 - 35,514	2.50
35,515 and up	3.00

The discrimination against smaller districts is apparent if you consider two districts with identical percentages of eligible students, one of which is a large district, the other small. Under the percentage weighting system, the smaller district will receive the same amount per pupil as the larger district, because they both have the same percentage of eligible students, and they each get the same benefit from the weighting system.

But under the number weighting system, the larger district, which has a higher absolute number of eligible students, will get far **more funding per pupil** because it will have students in the higher weight brackets where each student counts as several students, while all of the smaller district’s students are in the lowest bracket where each only counts as one student. A small district with the identical percentage of eligible students as a larger district can – and does -- receive a smaller weighted student count and a lower level of funding per pupil.

A Case Study in How Weighting Works

To demonstrate how the weighting system works, consider two districts in Pennsylvania: Philadelphia (33.6% Title I student eligibility rate and an estimated² 89,179 eligible students) and Aliquippa School District (34.9% Title I rate and an estimated 632 eligible students).

Table 3 shows the results for these two districts using the weighting brackets based on **percentage** of formula students. With very similar poverty rates³ in these two districts, the weighting system yields very similar average net weights for each eligible student. Philadelphia’s average net weight is slightly lower (1.73 versus 1.79 for Aliquippa) because its poverty rate is slightly lower. A student in poverty in both districts is “worth” about the same in the formula.

Table 4 shows how these same districts fare using the weighting brackets based on the **number** of eligible students. Because there are over 89,000 eligible students in Philadelphia, it places students in all five weighted brackets. In fact, 63% of Philadelphia’s Title I students are in the fifth bracket where they each count three times in the formula. When

²The number of school aged children (5-17 years) and the number of school aged children living in poverty are estimated for each school district each year by the U.S. Census Bureau for use by the U.S. Department of Education in the Title I funding formulas.

³Students are eligible for Title I funding on the basis of several criteria, but about 96% of Title I students are eligible by virtue of living in households whose income is below the poverty line.

you add in this extra weight and sum it all up, every eligible Philadelphia student, on average, counts as 2.76 students in the formula.

Table 3 - Student Counts Using "Percentage Eligible" Weighting

Percentages of Students Who Are Eligible	Weight Given Each Student in Bracket	Philadelphia (33.6% poverty)		Aliquippa (34.9% poverty)	
		Actual Number of Eligible Students in this Bracket	Weighted Number of Eligible Students (Col. 3 x Col. 2)	Actual Number of Eligible Students in this Bracket	Weighted Number of Eligible Students (Col. 5 x Col. 2)
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Up to 15.58	1.00	41,407	41,407	282	282
15.59 - 22.11	1.75	17,381	30,417	118	207
22.12 - 30.16	2.50	21,394	53,485	146	365
30.17 - 38.24	3.25	8,997	29,240	86	280
38.25 and up	4.00	0	0	0	0
Total		89,179	154,549	632	1,134
Average Net Weight of Each Eligible Student		1.73		1.79	

By contrast, under this number weighting system, each eligible student in Aliquippa would still only count as one student in the formula, because Aliquippa has only 632 eligible students, not enough to fill the first bracket. Because none of its students are in the higher brackets, none counts as more than one in the formula.

Table 4 - Student Counts Using "Number" Weighting

Number of Eligible Students	Weight Given Each Student in Bracket	Philadelphia (33.6% poverty)		Aliquippa (34.9% poverty)	
		Actual Number of Eligible Students in this Bracket	Weighted Number of Eligible Students (Col. 3 x Col. 2)	Actual Number of Eligible Students in this Bracket	Weighted Number of Eligible Students (Col. 5 x Col. 2)
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
1 - 691	1.0	691	691	632	632
692 - 2,262	1.5	1,571	2,357	0	0
2,263 - 7,851	2.0	5,589	11,178	0	0
7,852 - 35,514	2.5	24,710	61,775	0	0
35,515 and up	3.0	56,618	169,854	0	0
Total		89,179	245,855	632	632
Average Net Weight of Each Eligible Student		2.76		1.00	

The weighting approach used in calculating each district’s share of the Title I funding will be the weighting approach that gives that district the most money. In the final count, Philadelphia gets credit for 2.76 times the actual number of eligible students using the number weighting system, while Aliquippa gets credit for 1.79 times the number of eligible students under the percentage weighting system.

In other words, even though they have about the same poverty rate, a Title I student in Philadelphia is worth about 54% more funding than a Title I student in Aliquippa, simply because Aliquippa is a smaller district.

Disparities in Title I Funding in Pennsylvania

Overview

For the school year 2008-2009, about \$554.7 million of federal funds were distributed to Pennsylvania school districts for the education of over 314,000 disadvantaged students under Title I.⁴ On average, \$1,731 was distributed for each Title I student, but the amount per Title I student in each school district varied widely from \$815 to \$2,689. We look at the distribution disparities from a number of perspectives.

The Smaller Half

The largest 21 districts (of 433) with half the Title I students received 70.1% percent of the weighted grant funds and 60.0% percent of all Title I funds. The other 433 districts with the other half of the Title I students received 29.8% of the weighted grants and 40.0% of all Title I funds. The larger districts received \$2,135 per Title I student, on average, while the smaller districts received \$1,404 per Title I student, on average. This analysis excludes districts that receive no weighted grants.

Table 5 - Larger Districts with Half the Title I Students Versus Smaller Districts with Half the Title I Students

Size Category	No. Districts	Title I Eligibility Rate	Percent Title I Students	Percent All Title I Funds	Percent Weighted Grant Funds	Targeted Grant Per Pupil	EFIG Grant Per Pupil	Total Title I Grant Per Pupil
Larger Districts	21	29.0 %	49.6 %	60.0 %	70.1 %	\$507	\$571	\$2, 135
Smaller Districts	433	12.4 %	50.4 %	40.0 %	29.8 %	\$245	\$207	\$1,404

The Highest Poverty Districts

Pennsylvania’s largest district, Philadelphia, with a Title I eligibility rate of 33.6 percent, received \$2,356 per Title I student in SY 08-09.

Five smaller districts with higher eligibility rates (Reading and four districts with between 1,000 and 2,000 students) received on average \$1,967 per Title I student. A Title I student in Philadelphia was “worth” 20% more than a Title I student in these higher poverty districts.

Those five districts plus the next five districts with poverty rates just below Philadelphia’s rate received \$1,923 per Title I student. These ten districts had a cumulative poverty rate of 36.2%.

⁴This does not include \$10.8 million provided to the state for the education of over 6,000 students adjudicated “delinquent.”

Fifteen districts with a cumulative poverty rate about equal to Philadelphia's (34.4%) received \$2,013 per Title I student.

All of the difference in per pupil funding was attributed to the weighted formulas.

The targeted and EFIG grants ranged from 39% to 111% more per pupil in Philadelphia than in these various groupings of other high poverty districts. The disparity was greatest in the EFIG grants. On average, the Targeted grants to Philadelphia were 48% higher per pupil than to these other high poverty districts. The EFIG grants were 84% higher on average.

Table 6 - Philadelphia and Districts with Similar Poverty Rates

Districts	Title I Students	Title I Eligibility Rate	Targeted Grant Per Pupil	EFIG Grant Per Pupil	Total Title I Grant Per Pupil
Philadelphia	89,179	33.6 %	\$603	\$728	\$2,356
5 Districts with Poverty Rates Higher than Philadelphia	8,521	38.9 %	\$433	\$434	\$1,967
5 Districts Above and 5 Districts Immediately Below Philadelphia in Poverty Rate	14,059	36.2 %	\$409	\$399	\$1,923
15 Poorest Districts with Cumulative Poverty Rate Closest to Philadelphia	20,977	34.4 %	\$415	\$414	\$2,013

Matched Pairs

Three of the four largest districts received from 5 to 15 percent more funding per Title I student than a matched smaller district that ranked immediately above it in poverty rate. The Targeted grants were 12 to 53 percent higher per Title I student in the larger districts and the EFIG grants were 16 to 88 percent higher. In the one case where the smaller district received higher per pupil funding, the smaller district received 9 percent more per pupil Title 1 funds. That district has the highest poverty rate in the state at 43.7%, 4.2 percentage points higher than the larger district matched with it in this analysis.

Table 7 - The Four Pennsylvania Districts with Largest Title I Student Count Compared to the District with Next Highest Percentage Title I Eligibility

District	Title I Students	School Aged Population	% Title I Eligible	Targeted Grant Per Title I Student	EFIG Grant Per Title I Student	Total Title I Funds Per Student
Philadelphia	89,179	265,770	33.6 %	\$603	\$728	\$2,356
Aliquippa	632	1,813	34.9 %	\$394	\$388	\$2,045
Pittsburgh	11,608	46,090	25.2 %	\$448	\$452	\$2,044
Lancaster	3,188	12,609	25.3 %	\$338	\$298	\$1,848
Reading	6,797	17,207	39.5 %	\$437	\$438	\$1,955
Farrell Area	506	1,159	43.7 %	\$479	\$502	\$2,135
Allentown City	5,699	19,077	29.9 %	\$383	\$350	\$1,765
Mount Union Area	490	1,629	30.1 %	\$343	\$303	\$1,671

Systematic Discrimination Against Smaller Districts at All Poverty Levels

We ranked the districts from highest to lowest poverty rate, then split them into four groups so that each group included (as nearly as possible) one-fourth of the Title I students. The result was four groups within which the districts had similar poverty rates – very high, high, low, and very low – and about the same number of Title I students.

We then ranked the districts within each group according to the number of Title I students -- from largest to smallest -- and then within each group compared the larger districts that together had half the Title I students in the group with the smaller districts that had the other half of the Title I students.

Philadelphia and Pittsburgh were not included in this analysis because Philadelphia alone has one fourth of the Title I students in the state and Pittsburgh would have distorted the data for the larger districts in its poverty group. Philadelphia and Pittsburgh are displayed separately for comparison purposes in table 8. We also removed from the very low poverty quartile those districts whose poverty rate was so low that they did not qualify for any weighted grants.

In each of these four groupings of districts with similar poverty rates, the larger districts receive more Title I funding per Title I student than the smaller districts. The higher the level of poverty, the wider is the disparity. For districts in the very low poverty grouping, the difference was two percent or less, on average. But for the very high poverty districts, larger districts on average received 8% more overall Title I funding per Title I student, 17% more Targeted grant funding, and 24% more EFIG funding.

The per pupil funding for Philadelphia and Pittsburgh was much higher than even the large high poverty districts, almost twice as high in the EFIG grant program.

Table 8 - Title I Funding of Larger and Smaller Districts with Similar Poverty Rates

Poverty Group	Size Tier	Number Districts	Title I Students	School Aged Population	% Title I Eligible	Targeted Grant Per Title I Student	EFIG Grant Per Title I Student	Total Title I Funds Per Student
Very High Poverty	Larger	6	26,864	85,267	31.5 %	\$394	\$377	\$1,898
	Smaller	41	27,844	103,006	27.0 %	\$338	\$305	\$1,750
High Poverty	Larger	24	27,369	148,295	18.5 %	\$271	\$228	\$1,536
	Smaller	94	27,664	148,924	18.6 %	\$247	\$200	\$1,492
Low Poverty	Larger	34	27,418	210,720	13.0 %	\$250	\$212	\$1,398
	Smaller	114	27,502	212,539	12.9 %	\$220	\$185	\$1,296
Very Low Poverty	Larger	43	21,275	427,849	7.9 %	\$225	\$189	\$1,264
	Smaller	96	21,049	442,530	7.3 %	\$220	\$185	\$1,241
Philadelphia	-	-	89,179	265,770	33.6 %	\$603	\$728	\$2,356
Pittsburgh	-	-	11,608	46,090	25.2 %	\$448	\$452	\$2,044

Effect of Eliminating Number Weighting

If Title I funds under the weighted grant programs were distributed using the percentage weighting system only, so that the most per pupil went to districts with the highest poverty rates, most Pennsylvania districts would be better

off and the state as a whole would receive a slightly larger share of the national Title I funds. Those are conclusions from our analysis of data produced by the Congressional Research Service to simulate the nationwide district-by-district effects if the number weighting option had been eliminated from the formula for the school year 2007-2008.

The CRS analysis indicates that only 10 Pennsylvania districts would have lost funding if number weighting had been eliminated. The lion's share of the loss under both grant programs (86%) would have been absorbed by Philadelphia.

Eleven districts would have lost funding under the Targeted Grant program. Two of those 11 would have gained funding back under the EFIG program--one of them gaining enough under EFIG to more than offset its losses under the Targeted grant program. Other than those two districts, all Pennsylvania districts would have been affected the same--either winning or losing funding--under both Targeted and EFIG programs.

Seven of the ten net losers have a Title I eligibility rate below the state average of 14.9%. The big winners in dollar terms under both the Targeted and especially the EFIG grant program would have been high poverty small city districts like Reading (\$1,013,959 gain), Chester-Upland (\$585,589 gain), York (\$548,202 gain), and Harrisburg (\$445,688 gain). But most of the winners of all sizes would see increases in proportion to those of the top money winners -- about 16% in their Targeted grant and about 21% in their EFIG grant.

Targeted Grants

Since the weighting system in Targeted grants is applied at the national level, its effects are inter-state as well as district-to-district. A total of 422 Pennsylvania districts would have collectively gained \$7,106,603 if number weighting had been eliminated from the formula in 2007-2008, and 11 districts would have collectively lost \$6,647,888 for a net gain to the state of \$458,715. For 68 districts, there would have been no change at all because with a poverty rate of less than 5%, they do not qualify for a Targeted grant.

Most of the loss would have been sustained by Philadelphia -- \$5,700,304, or 86% of the total loss and 18.1% of its Targeted grant. Pittsburgh would have lost \$657,736 (15.9% of its grant). All of the other districts that would have lost money are moderate sized districts (9,000-18,000 students) who would lose funding because they have enough Title I students to benefit a little from number weighting, but they have such a low percentage of poverty that under percentage weighting all their Title I students are in the lowest bracket. All of the Targeted funds lost to Pennsylvania districts would have been effectively redistributed within Pennsylvania. Most districts that would have gained would have seen an increase of about 17% in their Targeted grant.

In addition to the district level effects, the state would gain an additional \$360,999 for the education of delinquent children.

EFIG Grants

Under the EFIG program, a state's allocation is determined by a combination of factors including how equitable its own state funding formula is and how much fiscal effort it makes relative to that of other states. Once the state's allocation is determined, the number weighting system is applied to determine the allocation among its districts. The effect of number weighting is entirely intrastate in the EFIG program.

Nine districts would have collectively lost \$7,284,009 if number weighting had not been applied in 2007-2008. Those funds would have been reallocated to 424 districts and to the state itself for the education of 5,836 delinquent children. Again, Philadelphia would have lost the most at \$6,251,999 (86% of all losses and 13.3% of its EFIG grant). Pittsburgh would have lost \$786,995, or 15.2% of its EFIG grant. And again, 68 districts would have seen no change because with a poverty rate below 5%, they do not qualify for an EFIG grant. Most districts that gain would see an increase of about 21% in their EFIG grant.

The number of Title I children attending districts that would have benefitted from eliminating number weighting in 2007-2008 is nearly double the number attending districts that would have lost funding. The Census estimated poverty count among children aged 5-17 in the districts that would have gained was 194,276 and 102,579 in the districts that would have lost.

Use of Title I Weighted Grant Formulas to Distribute Stimulus Funds

Another way to observe the impact of number weighting on allocations of Title I funds is to consider the distribution of American Reinvestment Recovery Act funds (the economic stimulus legislation) to local school districts for uses authorized under Title I. These funds are to be distributed using only the Targeted and FIG formulas. In early March 2009, the U.S. Department of Education released preliminary estimates of the amount of funding that would go to each district in the nation. Based on these preliminary figures, \$390,882,094 will be distributed to Pennsylvania school districts (\$1220 per Title I student). Table 9 shows the distributions to be made to the 16 highest poverty districts (all at over 30% Title I formula students) in the state.

Table 9 - Stimulus Title I Funding School Districts with Poverty Rate Above 30 Percent

<u>School District</u>	<u>Title I Stimulus Funding (Preliminary 3/2/09)</u>	<u>Census Estimated Population Aged 5-17</u>	<u>Total No. of Title I Formula Students</u>	<u>Percent Formula Students</u>	<u>Title I Stimulus Per Formula Students</u>
FARRELL AREA	446,083	1,159	506	43.7%	882
READING	8,787,467	17,207	6,797	39.5%	1,293
DUQUESNE CITY	681,723	1,338	488	36.5%	1,397
WEST GREENE	369,881	1,093	382	34.9%	968
ALIQUIPPA	429,143	1,813	632	34.9%	679
PHILADELPHIA	197,389,282	265,770	89,179	33.6%	2,213
HARRISBURG	3,925,984	9,281	3,069	33.1%	1,279
SALISBURY-ELK LICK	219,140	548	180	32.8%	1,217
NEW CASTLE AREA	1,562,314	4,277	1,377	32.2%	1,135
BROWNSVILLE AREA	971,431	2,283	734	32.2%	1,323
SUSQUEHANNA COMMUNITY	215,139	1,019	327	32.1%	658
CHESTER-UPLAND	3,706,776	9,498	3,025	31.8%	1,225
MIDLAND BOROUGH	89,558	467	148	31.7%	605
YORK CITY	3,883,748	8,243	2,554	31.0%	1,521
WILKINSBURG BOROUGH	936,798	3,009	925	30.7%	1,013
MOUNT UNION AREA	409,845	1,629	490	30.1%	836

The per pupil stimulus funding of these high poverty districts ranges from \$605 to \$2,213, a ratio of 3.66 to 1. Nine of the 16 highest poverty districts will receive less than the state average per pupil. Seven will receive less than half the per pupil allocation of the top recipient, Philadelphia. Three of those receiving less than half of Philadelphia's per pupil allocation have a higher percentage of Title I students than does Philadelphia.

Conclusions

The weighted grant programs that are part of the formula for distributing federal Title I funds for the education of disadvantaged students in Pennsylvania include a weighting system that inflates student eligibility count based on the absolute number of Title I students. This number weighting system effectively redirected over \$14 million from more than 400 Pennsylvania school districts to just nine districts in school year 2007-2008.

In school year 2008-2009, Pennsylvania's largest district, Philadelphia, with a Title I eligibility rate of 33.6 percent, received \$2,356 per Title I student. Five smaller districts with higher eligibility rates (Reading and four districts with between 1,000 and 2,000 students) received on average \$1,967 per Title I student.

Within each of four groups of districts with similar poverty rates (very high, high, low, and very low), the larger districts received more money per Title I student than the smaller districts.

According to the Congressional Research Service, if number weighting were eliminated from the formula, only 10 districts would be worse off, and seven of those are districts with poverty rates below the state average. The most impacted, however, would be Philadelphia with a poverty rate of 33.6%, more than twice the state average. It would lose nearly \$12 million or about \$134 per Title I student. On the other hand, the biggest winners would be high poverty smaller cities, especially Reading, Chester-Upland, York, and Harrisburg, all with poverty rates between 35% and 41%.

Many districts gain student weight count via the number weighting system. But "gaining weight" does not mean a district gains increases in funding. The absolute weighted student count is not important. What is important is whether a district's share of the inflated student count is more or less than its share of the count before number weighting is added. If a district gains but other districts gain proportionally more, it will lose funding. That is because the weight shares are used to allocate a fixed sum of federal appropriations. Absolute weight does not matter; relative weight share does.

The issue of number weighting will only grow in the years ahead as Congress intends to channel all future increases in Title I funding through the weighted formulas only. In keeping with that direction, Congress determined this year to distribute the American Reinvestment Recovery Act stimulus funding for Title I programs through the weighted grant programs. Preliminary U.S. Department of Education allocation data indicate that the per pupil funding of the 20 highest poverty districts in Pennsylvania ranges from \$605 to \$2,213, a ratio of 3.66 to 1. Nine of the 16 highest poverty districts in the state will receive less than the state average per pupil. This is the effect of number weighting.