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ABSTRACT
            To provide for its public education system, the state
of Pennsylvania pays an Equalized Subsidy for Basic Education (ESBE)
to school districts. More than 85 percent of the basic ESBE is
distributed inversely to districts on the basis of their wealth. The
rest of the ESBE is comprised of numerous supplements addressing the
particular needs of certain types of districts, such as small
districts and those with many families receiving welfare payments.
Although the subsidy is intended to equalize resources among school
districts of varying wealth, instructional expenditures across the
state vary widely. The wealthiest 100 school districts spent an
average of $4,210 per pupil in 1988-89, and the least affluent 100
school districts spent an average of $2,729. There are two
explanations for this wide variation in spending patterns: the
unwillingness-to-spend hypothesis and the inability-to-fund
hypothesis. The study summarized in this report tests these
hypotheses by examining the equity (across wealth groupings) of the
current educational subsidy system and various alternative subsidy
proposals. Using groups of 100 school districts, data from all 500
operating school districts were analyzed. According to numerous
equity measures, it was found that the current system maintains the
unequal distribution of instructional resources across wealth
groupings. A base guarantee system with no minimum subsidy for school
districts would provide the greatest degree of equity at current
spending levels. Included are numerous graphs and two appendices
providing comparison data and methodology analysis. (MLH)

THE EFFECT OF THE CURRENT AND ALTERNATIVE SUBSIDY SYSTEMS ON EQUITY AMONG PENNSYLVANIA SCHOOL DISTRICTS

PSEA

PENNSYLVANIA STATE
EDUCATION ASSOCIATION

THE EFFECT OF THE CURRENT AND ALTERNATIVE SUBSIDY SYSTEMS

ON EQUITY AMONG PENNSYLVANIA SCHOOL DISTRICTS

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Abstract

The purpose of this study[1] was to examine the equity (across wealth groupings) of the current instructional subsidy system and a number of alternative subsidy proposals. These proposals include both systems which maintain the current subsidy structure and those which entail a new subsidy composition. Using groups of 100 school districts, data from all 500 operating school districts in Pennsylvania were used to analyze equity. According to a number of measures of equity, it was found that the current system maintains the unequal distribution of instructional resources across wealth groupings. A base guarantee system with no minimum subsidy for school districts was found to provide the greatest degree of equity at levels of spending comparable to current levels.

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[1]This study is intended for discussion purposes and does not represent an official legislative position of PSEA.

Introduction

Article III, Section 14 of the Pennsylvania Constitution states that the Commonwealth will "provide for the maintenance and support of a thorough and efficient system of public education." Currently, the State fulfills this mandate through the payment of subsidies (primarily an instruction subsidy, the Equalized Subsidy for Basic Education or ESBE) to school districts.

The principal component (more than 85 percent), or base subsidy, of the ESBE is distributed inversely to districts on the basis of their wealth. The rest of the ESBE is comprised of a number of supplements which address the particular needs of certain types of districts, such as small districts and those with a large number of students from families receiving Aid to Families with Dependent Children (i.e., a poverty payment). In this way, the subsidy is intended to equalize resources among school districts of varying wealth.

Differences in Spending

Instruction expenditures per pupil vary widely across Pennsylvania.[2] This variance is highly related to certain factors; one of the foremost is community wealth. The wealthiest 100 school districts (based on the school district Market Value/Personal Income Aid Ratio) spent, on average, $4210 per pupil in 1988-89, while the least wealthy 100 school districts spent an average of $2729 -- almost $1500 per student less (Graph 1).

There are usually two, not necessarily conflicting, explanations for this wide variation in spending patterns. These hypotheses can be put forth as follows:

1. The "Unwillingness to Spend" hypothesis: This is the theory that low wealth districts spend below average per pupil for a number of reasons:

   a. these districts inaccurately <u>perceive</u> themselves as unable to spend more; or
   b. they use their low wealth as an <u>excuse</u> to spend less; or
   c. they simply do not <u>wish</u> to spend more.

2. The "Inability to Fund" hypothesis: This is the hypothesis that a district's wealth <u>actually</u> <u>does</u> determine its ability to fund education, despite the supposed equalizing effect of the state subsidy.

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[2]Instructional expenditures are defined (by the Public School Code of 1949, as amended) as all general fund expenditures except those for health services, transportation, debt service, capital outlay, homebound instruction, and outgoing transfers to community colleges and vocational technical institutions.

GRAPH 1
ESTIMATED INSTRUCTIONAL EXPENDITURES
(1988-89)

Spending per Pupil

Wealthier districts spend more per pupil.

	1st Quintile (least wealthy)	2nd Quintile	3rd Quintile	4th Quintile	5th Quintile (most wealthy)
Spending	$2729	$2881	$3005	$3287	$4210

Wealth Quintile
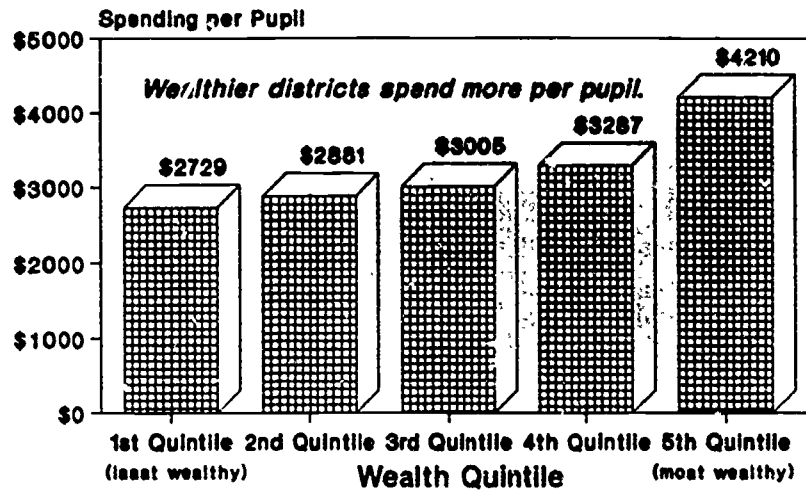
Testing the Hypotheses

If the first hypothesis was correct, we would expect to find that
the pattern of higher spending among wealthy districts was due to
an unwillingness of lower wealth districts to spend more; if the
second hypothesis was correct, we would expect to find that the
differences in spending were due to an inability to fund
education. If the latter was true, it would indicate that the
state subsidy is failing in its goal of equalizing education
resources.

In order to test these hypotheses, it is necessary to look at the
resources -- rather than expenditures -- available to the
different groups of school districts. Because spending patterns
are determined at the local level, there may be a number of
reasons for the variance in spending which do not involve the
state subsidy (e.g., different local tax efforts or local
decisions on spending priorities). Therefore, we compared
resource levels so that we could properly evaluate the state
subsidy and test the above hypotheses.

We did so by making certain assumptions and theoretical
calculations surrounding school district resources. *Theoretical
resource variables* can be created for every school district if it

2

is assumed that each district had the same local tax effort (19.8 mills on market value[3]). Of course, in practice, districts are free to tax at levels above or below 19.8 mills. Once these variables are created, we can examine the total per pupil resources (from local taxes and state instruction subsidy) available to each district to see if they are relatively equal. For a fuller explanation of the method used, refer to Appendix B.

In other words, using the market value of a school district, we can calculate the revenue the district would generate from 19.8 mills on market value of local tax effort. To this figure we add the subsidy a district would receive during 1989-90 (on account of its expenditures in 1988-89) under the State's education budget in order to obtain the district's level of *resources*.[4]

Examining the Current State Subsidy

Under this scenario of uniform tax effort, the 100 wealthiest school districts would have average resources of $4166 per student. Conversely, in the 100 least wealthy districts, the resources would only be $2907 per pupil -- a difference of almost $1260 per pupil (*Graph 2*).[5]

The disparity in resources between the two extreme wealth groups is very similar to the actual differences in spending between these groups. In other words, even if every district taxed at the same level (i.e., at the statewide median), the Equalized Subsidy for Basic Education would not greatly reduce the
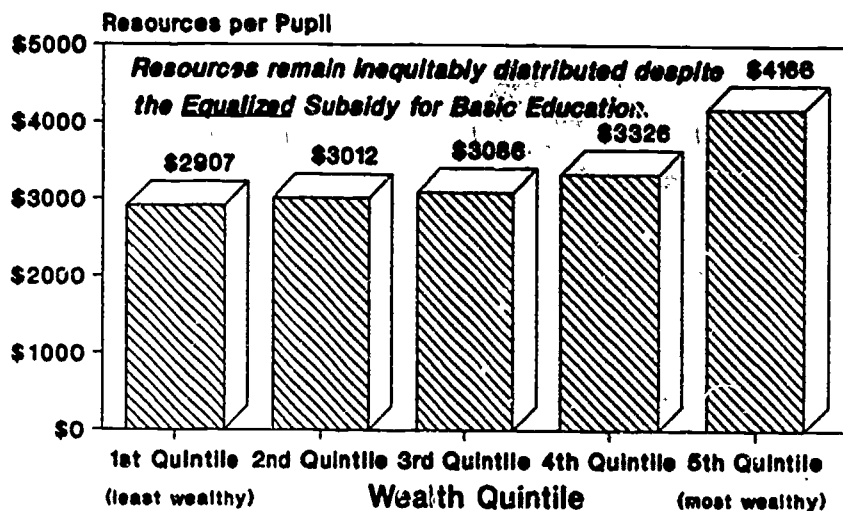
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[3]The level of education spending determines a district's class size, the quality of its facilities and resources, how well it can compete for and retain teacher talent, the breadth and depth of course offerings, etc. In other words, it directly determines the quality of education. The problem we are confronted with is finding a dollar amount to represent local investment in education. In Pennsylvania, 500 districts must make just such a determination (primarily expressed through their powers of taxation). From these 500 decisions, it certainly makes sense to choose a number which represents the middle ground of these decisions. Hence, we have chosen to use the median, which has historically been used to set funding levels in Pennsylvania subsidy systems. The Pennsylvania Department of Education's estimate of the statewide median taxing level in 1988-89 was 19.8 mills on market value.

[4]Under this hypothetical scenario, every district would receive the state's economic supplement (usually paid only to those districts at or above the statewide median tax effort), because every district would have tax effort at the statewide median of 19.8 mills on market value.

[5]Appendix A lists two statistical measures of equity for the current State subsidy and the other subsidy proposals outlined below.

3

inequitable distribution of resources among Pennsylvania's school districts.

GRAPH 2
AVAILABLE RESOURCES UNDER ACTUAL
CURRENT SUBSIDY (1988-89 SCHOOL YEAR)

Resources per Pupil

Resources remain inequitably distributed despite the Equalized Subsidy for Basic Education.

Wealth Quintile	Resources per Pupil
1st Quintile (least wealthy)	$2907
2nd Quintile	$3012
3rd Quintile	$3086
4th Quintile	$3326
5th Quintile (most wealthy)	$4166

Note: Assuming Uniform Tax Rate of 19.8 Mills on Market Value.

These results indicate that low wealth districts are <u>not</u> spending less on education due to an unwillingness to tax their citizens to provide resources, but rather due to a lack of available local and state resources. In fact, the actual tax effort of the lower wealth districts is no different from that of the wealthier districts (Graph 3).[6]

In order to provide equivalent resources of $3084[7] from local taxes and the current state subsidy, less wealthy districts would have to tax their citizens at much higher rates than would wealthy districts. The 100 least wealthy districts would need an average tax effort of 23.5 mills on market value, 63.2 percent

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[6] Our analysis shows that wealth (as measured by the Market Value/Personal Income Aid Ratio) and Local Tax Effort are statistically unrelated (r=.04, p=.34).

[7] $3084 would be the statewide median level of resources based on the actual current subsidy and all districts taxing at 19.8 mills on market value.

4

higher than the 100 wealthiest districts. These would need only
14.4 mills on market value in order to provide resources at the
state median (Graph 4).

GRAPH 3
LOCAL TAX EFFORT (MILLS ON MARKET VALUE)
(1988-89)

Mills on Market Value

Less wealthy districts tax at comparable rates to wealthier districts.

Quintile	Mills
1st Quintile (least wealthy)	19.6
2nd Quintile	20.7
3rd Quintile	20.4
4th Quintile	20.0
5th Quintile (most wealthy)	19.8

Wealth Quintile
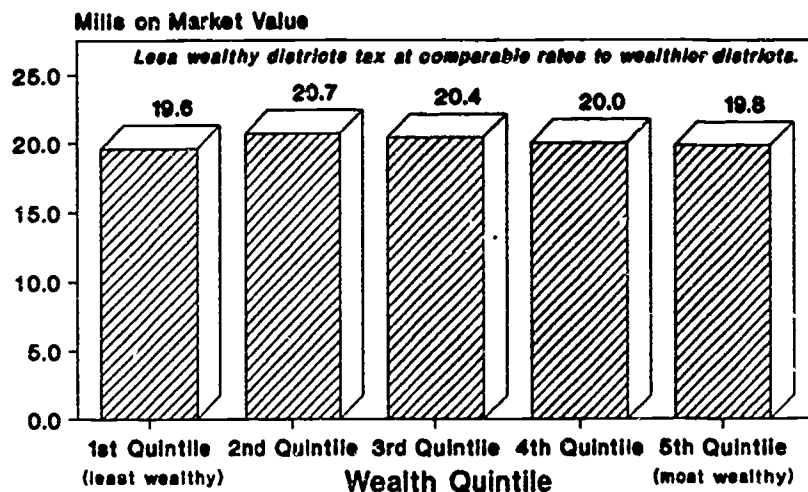
Another way to illustrate this wide disparity is by examining the
two districts on either end of the wealth spectrum. In order to
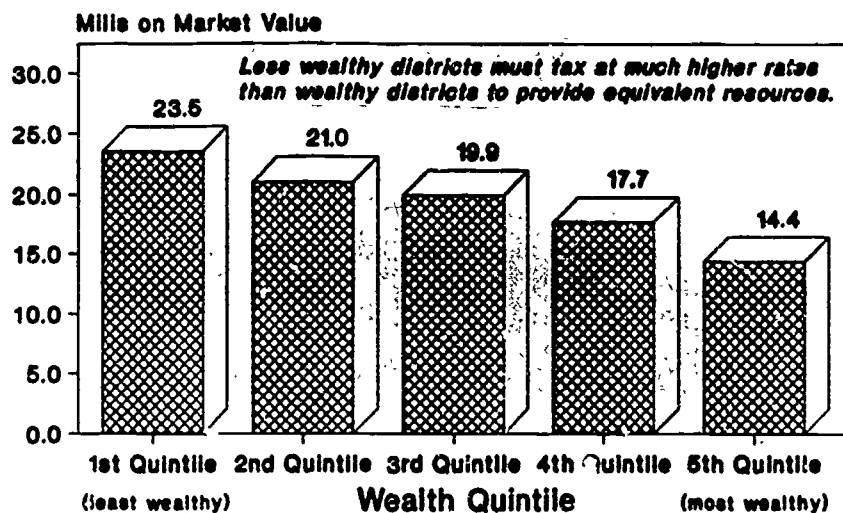provide resources of $3084 per student from local taxes and state
subsidy, Lower Merion School District need only tax its citizens
at the rate of 6.7 mills on market value. On the other hand, the
Mount Union Area School District would need to levy taxes at the
rate of 29.4 mills on market value to obtain the same level of
resources.

This means that for every $50,000 of property value owned by a
resident of Lower Merion School District, this resident would pay
taxes of $335 in order to finance education in their community.
For every $50,000 of property value owned by a resident of Mount
Union Area School District, they would pay taxes of $1470 --
i.e., $1135 or 339 percent more -- in order to provide Mount
Union Area School District with the same overall level of
resources for education. This is an enormous difference in tax
burden in light of the fact that it *includes* the state
instructional subsidy, which is intended to equalize resources
among districts of varying wealth.

5

GRAPH 4
NECESSARY LOCAL TAX EFFORT TO PROVIDE EQUIVALENT RESOURCES OF $3084 (1988-89)

Mills on Market Value

Less wealthy districts must tax at much higher rates than wealthy districts to provide equivalent resources.

Quintile	Mills
1st Quintile (least wealthy)	23.5
2nd Quintile	21.0
3rd Quintile	19.9
4th Quintile	17.7
5th Quintile (most wealthy)	14.4

Wealth Quintile

Note: Using Actual Current Subsidy

Of course, some districts would not tax at the statewide median level even if the state subsidy *did* provide these districts with an equal opportunity to attain resources of $3084. The point is that the less wealthy districts *as a whole* are not taxing at rates lower than wealthier districts.

This analysis demonstrates that the state subsidy does not provide every district with an equivalent ability to educate its pupils. In fact, despite the explicit purpose of the state subsidy to equalize educational resources, there would remain wide disparities between low wealth and high wealth districts in their resources for education expenditures even if they taxed at the same rate.

Improving the Current State Subsidy

We believe that the measure of an adequate state subsidy system has three basic components. First, a subsidy system should provide sufficient levels of resources for all education entities without overburdening citizens at the local level. Second, education resources should be equivalent among districts of varying wealth with similar local tax efforts. Finally, the state should be able to fund the system without levying unreasonable rates of taxation. Any proposed changes in the

6

state subsidy must take into account these three factors. That is, the system must be adequate, equitable, and fiscally reasonable.
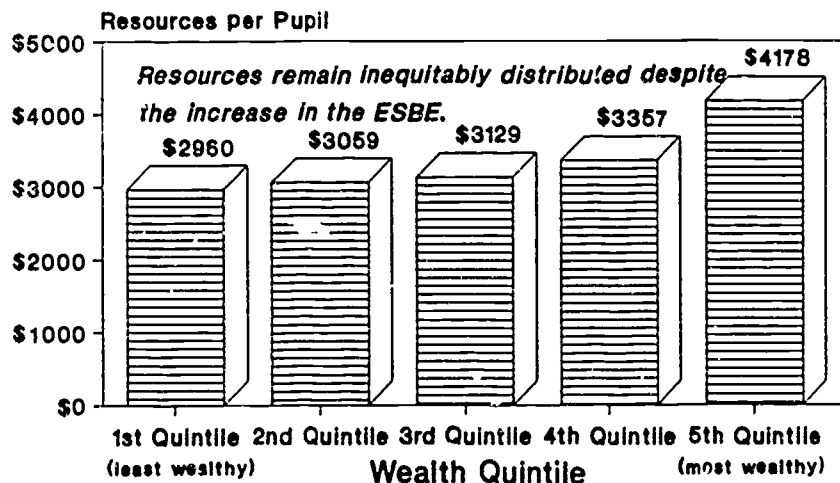
The State's 1989-90 Budget contains an increase in the ESBE of $154.0 million, or 6.1 percent, over the subsidy in 1988-89. Despite this increase and the increases of 6.6 percent and 6.4 percent in the last two years, the state subsidy system still does not meet the above criteria. This was illustrated in our analysis of whether the current state subsidy is equalizing.

ASAP Proposal to Increase the FEE

The Alliance for School Aid Partnership (ASAP) is a coalition of all major public education organizations, including PSEA, which is dedicated to increasing the level of state funding for education. ASAP had proposed that the 1989-90 budget set the subsidy at a level higher than that set by the State. Their proposal would have cost approximately $67 million more than the actual subsidy.

If this proposal had been implemented and every district had local tax effort at the statewide median of 19.8 mills, there would remain wide disparities among school districts in available resources for education. Under the ASAP proposal, the 100 highest wealth districts would have resources of $4178 per pupil. The 100 least wealthy districts, on the other hand, would only have $2960 per pupil from local taxes and state subsidy -- almost $1220 less (Graph 5).

GRAPH 5
AVAILABLE RESOURCES UNDER ASAP PROPOSAL
(1988-89 SCHOOL YEAR)

Resources per Pupil

Resources remain inequitably distributed despite the increase in the ESBE.

| Quintile	Resources per Pupil
1st Quintile (least wealthy)	$2960
2nd Quintile	$3059
3rd Quintile	$3129
4th Quintile	$3357
5th Quintile (most wealthy)	$4178

Wealth Quintile

Note: Assuming Uniform Tax Rate of 19.8 Mills on Market Value and FEE set at $2400.

Setting the FEE at the Median Expenditure Level

It has also been suggested by the ASAP coalition and others that the state should set its Factor for Educational Expense, or the FEE -- the major constant component in the base subsidy -- at the statewide median expenditure level (which was $3032 per pupil in 1988-89). Once again, the disparities among wealth groupings (assuming uniform local tax effort of 19.8 mills) remain.

With the FEE set at $3032, the highest wealth group would have resources of $4315 per pupil, while the lowest wealth group would have $3451 per student -- more than $860 less (Graph 6). Clearly, this would be a more equitable distribution of resources than currently exists. However, the cost of implementing this proposal within the existing subsidy system exceeds $700 million.

GRAPH 6
AVAILABLE RESOURCES UNDER MEDIAN FUNDING
(1988-89 SCHOOL YEAR)
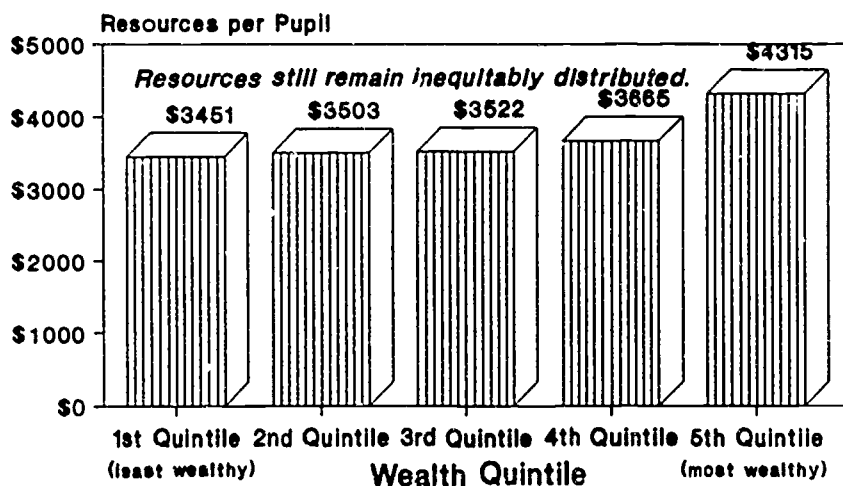
Note: Assuming Uniform Tax Rate of 19.8 Mills on Market Value and FEE set at $3032.

Guaranteeing Resources for all Districts

How, then, is it possible for the state to provide a subsidy system which is adequate, equitable, and cost conscious? One way would be to guarantee each district a certain level of funding based on their local resources. Under such a system, the state would guarantee each district resources at a certain level and then would make up the difference between this guaranteed base and what the local district could achieve at a certain tax level.

8

11

Under one example, the state would set the guaranteed base at $2990.[8] Districts would receive a base minimum subsidy of the difference between $2990 per pupil and what their resources per pupil would be with a local tax effort of 19.8 mills on market value (Graph 7).[9]

GRAPH 7
SAMPLE CALCULATION OF GUARANTEED BASE

	District A	District B
Market Value per pupil:	$100,000	$60,000
Local resources per pupil (at 19.8 mills on market value):	x.0198 ------ $1,980	x.0198 ------ $1,188
Guaranteed Base:	$2,990	$2,990
Local Resources:	-$1,980	-$1,188
	------	------
Base Subsidy:	$1,010	$1,802

Note: Examples do not include supplements.

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[8] This figure represents the median level of resources per pupil in Pennsylvania based on the current base subsidy (excluding any subsidy supplements) and all districts taxing at the statewide median. This figure differs from the median expenditure level (of $3032) because it examines resources (or revenues) rather than expenditures. It is also different from the $3084 figure for median resources noted earlier, as the $2990 excludes supplements (this is because the supplements would be added after the calculation of a base guarantee).

[9] It should be noted here that we are not comfortable with the current measure of tax effort, as it does not reflect the fact that citizens primarily pay local taxes with income -- whether or not the taxes are on property or wages. The calculation of tax effort should be based on a composite mix of property value and personal income, as is currently done with the Market Value/Personal Income Aid Ratio. By doing so, the guarantee would be based on a broader and more accurate measure of a district's wealth and would therefore provide greater levels of equity.

9

While school districts would be free to spend more or less than $2990 per pupil, this would be the amount that the state would guarantee to each district if it taxed at least at the statewide median level. That is, local school districts would still choose the level of taxation which they feel is appropriate, but they would be guaranteed a base instructional subsidy which was equal to the difference between $2990 and what local taxes they would generate, per pupil, at the statewide median tax level.

Guaranteed Base Without Recapture

Once again we can look at the differences in resources per student in the wealthiest 100 districts and the least wealthy 100 districts under this proposed plan in order to evaluate its equalizing effect. If the state "made up" the difference between what a district would receive from a tax levy of 19.8 mills on market value and $2990,[10] and then supplemented this base subsidy with the poverty and small district payments (s well as the economic supplement) as they currently exist, would the distribution of resources among Pennsylvania districts be more equitable than under any of the above proposals?

Under this "Base Guarantee" system, the 100 wealthiest districts would have average resources of $3667 per pupil, while the 100 least wealthy districts would have average resources of $3132 -- a $535 difference (Graph 8). In addition, 89 percent of the school districts in Pennsylvania would be within a $300 range in resources (from $3020 to $3320).[11] By contrast, the current subsidy only results in, at best, 47 percent of the districts falling within a range of $300 (from $2797 to $3097) in total resources.[12]

Because this system does not guarantee the wealthiest districts a minimum subsidy, it also would save the state a great deal of money. While the current system (including the economic
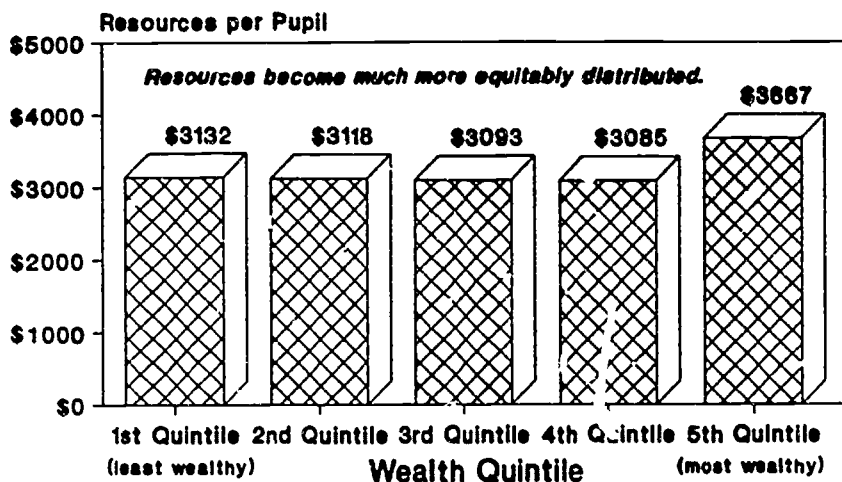
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[10] Under this scenario, the state would not pay a base guarantee to (but would not "recapture" funds from) those districts (of which there are 50) which would generate more than $2990 per student from a local tax levy of 19.8 mills on market value.

[11] The districts within this range would also include 76 percent of the students in the state (this figure rises to 88 percent when the two largest districts, Philadelphia and Pittsburgh, are excluded). Some school finance experts believe that an equitable subsidy system ensures that 85 percent of a state's pupils fall within a $300 range of resources (see Michael W. Kirst, quoted in Education Week, April 26, 1989, p. 11).

[12] These districts would only include 37 percent of the state's pupils; 43 percent if Philadelphia and Pittsburgh are excluded.

supplement for all districts) costs approximately $2.72 billion, the base guarantee system would cost about $2.45 billion, approximately $270 million less.

GRAPH 8
AVAILABLE RESOURCES UNDER BASE GUARANTEE
(1988-89 SCHOOL YEAR)

Resources per Pupil

Resources become much more equitably distributed.

Quintile	Value
1st Quintile (least wealthy)	$3132
2nd Quintile	$3118
3rd Quintile	$3093
4th Quintile	$3085
5th Quintile (most wealthy)	$3667

Wealth Quintile

Note: Assuming Uniform Tax Rate of 19.8 Mills on Market Value and Base Guarantee set at $2990.
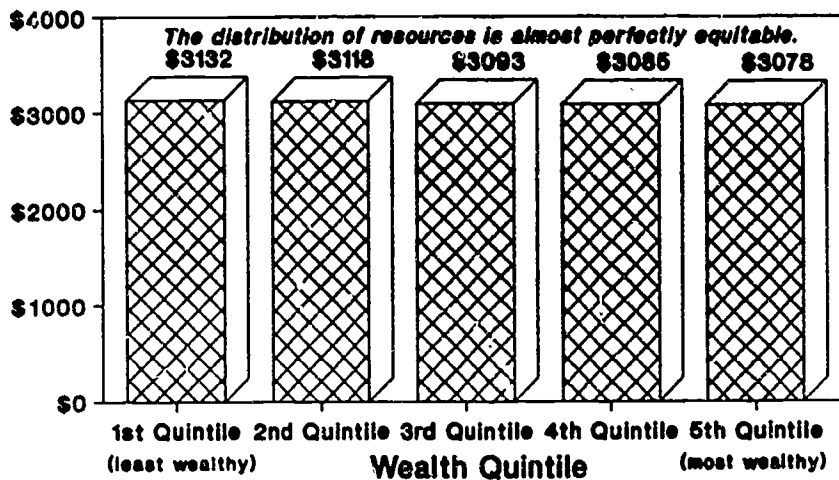
Guaranteed Base With Recapture

In order to effect a truly equalized subsidy system, Pennsylvania would have to adopt a system which recaptures revenue from the wealthiest local school districts. The 50 districts which would receive local revenue of more than $2990 per student from a tax levy of 19.8 mills on market value would pay to the state the excess revenue over $2990 per pupil (*Graph 9*).

This subsidy proposal would produce a virtually perfect system if equity was the only criterion (in fact, the lower wealth groups would actually have slightly higher total resources than the wealthier groups, due to the effect of the poverty and small district supplements). The cost of such a system would also be much less than the cost of the current system (almost $470 million less) and of the other alternatives discussed above. However, it is highly unlikely that such a system would be politically feasible and therefore, it is not considered a viable possibility.

11

GRAPH 9
AVAILABLE RESOURCES UNDER BASE GUARANTEE
WITH RECAPTURE (1988-89 SCHOOL YEAR)

The distribution of resources is almost perfectly equitable.

$3132	$3116	$3093	$3085	$3078

$4000

$3000

$2000

$1000

$0

1st Quintile 2nd Quintile 3rd Quintile 4th Quintile 5th Quintile
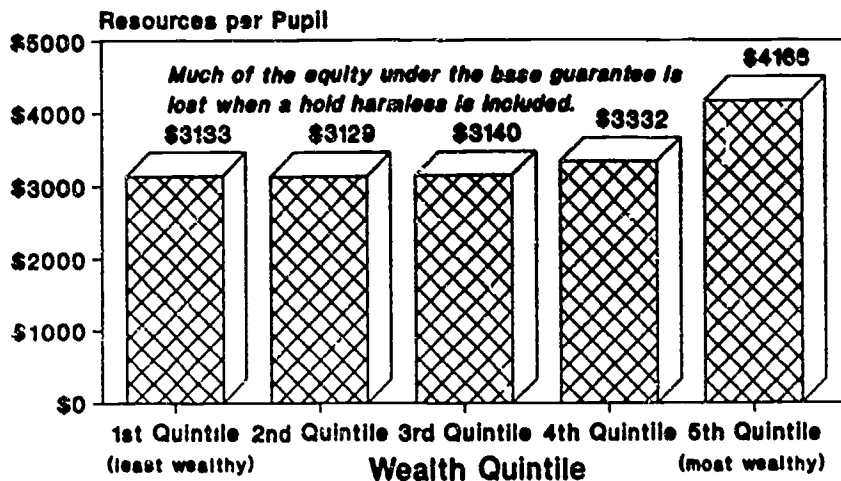(least wealthy)   **Wealth Quintile**   (most wealthy)

Note: Assuming Uniform Tax Rate of 19.8 Mills on Market Value
and Base Guarantee set at $2990.

Guaranteed Base With Hold Harmless

Political realities also might dictate that any new system would
include a "hold harmless" provision under which no district would
receive a reduction in subsidy based on the changes in the system
(*Graph 10*). The base guarantee system (without recapture) could
be implemented along with a "hold harmless" provision at a cost
of about $110 million above the cost of the current subsidy.
Naturally, the inclusion of a hold harmless provision would
reduce to a certain degree the level of equity attained under the
base guarantee system (e.g., the difference in total resources
between the highest and lowest wealth groups would become $1033).

12

15

GRAPH 10
AVAILABLE RESOURCES UNDER BASE GUARANTEE
WITH HOLD HARMLESS (1988-89 SCHOOL YEAR)

Resources per Pupil

Much of the equity under the base guarantee is lost when a hold harmless is included.

	1st Quintile (least wealthy)	2nd Quintile	3rd Quintile	4th Quintile	5th Quintile (most wealthy)
	$3133	$3129	$3140	$3332	$4165

Wealth Quintile

Note: Assuming Uniform Tax Rate of 19.8 Mills on Market Value and Base Guarantee set at $2990.

Conclusions

This analysis demonstrates that there are enormous differences in expenditure levels among Pennsylvania districts of varying wealth. These differences are largely a reflection of an inability to adequately fund education rather than an unwillingness to do so, as demonstrated by the substantially lower revenue capacity of low wealth districts. Even at uniform tax levels, wide disparities in education resources would remain.

This fact holds true to a large extent under the current subsidy, as well as ur'"er the initiative of the Alliance for a School Aid Partnership. And to a lesser extent, disparities remain if the state were to use the median expenditure level ($702 per pupil more than the amount contained in the 1989-90 budget) as a basis for its subsidy.

A state education subsidy system must provide adequate resources, be equitable, and maintain fiscal responsibility. The above systems clearly fail to provide equity or to guarantee adequate resources at current state funding levels. One way to meet these three criteria is for the state to guarantee a base level of resources for every district which taxes at the statewide median tax level.

13

In its purest form, such a system would include a provision by
which those districts whose local resources per student exceeded
the base guarantee would pay the excess revenues to the state.
This scenario, while providing adequate resources, equity, and
limits on state costs, probably would be politically unfeasible.

A similar system would maintain the base guarantee, but would not
require state recapture of excess revenue from the wealthiest
districts. While some districts would receive no base subsidy,
no district would be required to pay revenue to the state. This
system would cost less than the current subsidy,[13] would provide
an overall level of resources equivalent to the current level of
resources in the state, and would ensure a much higher degree of
equity than presently exists. In doing so, it would guarantee
that the Commonwealth carried out its duty to provide a thorough
and efficient education system for all of Pennsylvania's
students.

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[13]More importantly, the base guarantee system could be implemented at
the same cost as the current system if the base guarantee were raised by about
$150 (to almost $3150). In doing so, the degree of equity would be even
greater and almost all districts (over 90 percent) would receive a subsidy
increase equal to about 4 to 5 percent of their total resources under the base
guarantee system. In fact, for the same cost as the current system, every
district could be guaranteed at least $3150 in resources (under the guaranteed
base system) -- unlike under the current system where *282 districts* (or *56.4
percent*) receive less than $3150 in resources.

14

17

APPENDIX A

Data for Comparison of Subsidy Systems

Figure 1

Comparison of Resources and Costs Under Various Proposals

Proposed System	Range in Average Resources (lowest to highest group)*	Estimated Subsidy Cost**
Current Subsidy	$2907 - $4166	$2.72 billion
ASAP Initiative	$2960 - $4178	$2.78 billion
FEE set at median AIE	$3451 - $4315	$3.42 billion
Guaranteed Base	$3132 - $3667	$2.45 billion
Guaranteed Base (recapture)	$3132 - $3078	$2.25 billion
Guaranteed Base (hold harmless)	$3133 - $4166	$2.83 billion

* Assuming uniform local taxing levels (19.8 mills on market value).
** Estimated costs include the Economic Supplement for all districts.

Figure 2

Statistical Measures of Equity

Distribution of Local and State* Resources Under:	Coefficient of Variation	Correlation with Aid Ratio
No State Subsidy	53.4	-0.90
Current Subsidy	20.1	-0.73
ASAP Initiative	19.6	-0.72
FEE set at median AIE	15.4	-0.60
Guaranteed Base	16.3	-0.45
Guaranteed Base (recapture)	3.2	0.21
Guaranteed Base (hold harmless)	18.4	-0.67

* Assuming uniform local taxing levels (19.8 mills on market value).

The coefficient of variation and the correlation coefficient are
two measures of the equity of subsidy systems. The coefficient
of variation is a gauge of the dispersion of education resources
among all 500 operating school districts. Subsidy systems with
lower coefficients of variation have less variation in the
distribution of resources (Graph 12).

GRAPH 12
DISTRIBUTION OF RESOURCES
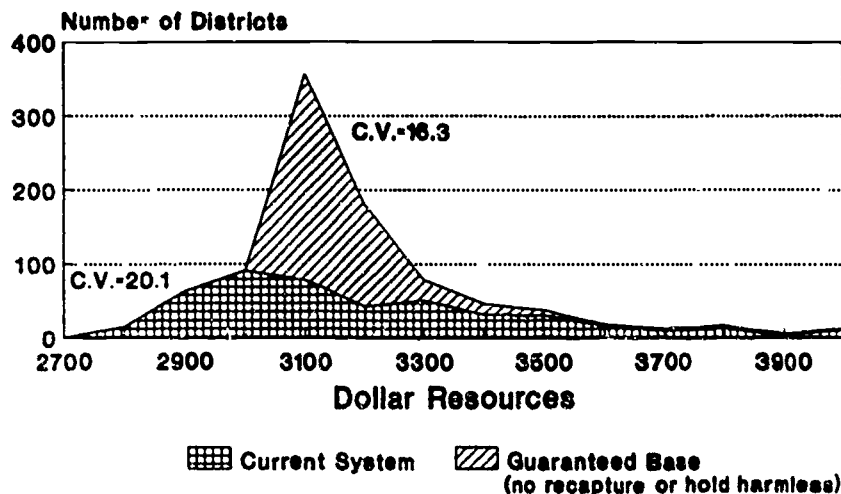
40 districts under the current system
and 22 under the base guarantee have
resources in excess of $4000.

C.V. - Coefficient of Variation

The correlation coefficients presented depict the relationship
between a district's wealth (as measured by its Market
Value/Personal Income Aid Ratio) and the education resources
available. A correlation of zero indicates no relationship
between wealth and education resources. A positive correlation
indicates greater resources to less wealthy districts; a negative
correlation indicates fewer resources to less wealthy districts.
The magnitude of the correlation indicates the strength of the
relationship between wealth and education resources.

A perfectly equitable system would have a coefficient of
variation equal to zero and a correlation coefficient equal to
zero. Except for the proposal which allows for recapturing, all
systems maintain greater resources for higher wealth districts.
Based on these two measures of equity, the proposal with the
greatest degree of equity is the base guarantee with recapture.
This is followed by, respectively, the base guarantee without
recapture, the current system with the FEE set at the median
expenditure level, the base guarantee with a hold harmless
provision, and the current system with the FEE set at $2400
(i.e., the ASAP initiative). Of the six proposals examined, the
current system was the most inequitable.

APPENDIX B

Method

For each of Pennsylvania's 500 operating school districts, the following information was received from the Pennsylvania Department of Education and used in performing calculations in this analysis:

1. Tax Effort (Estimated equalized mills in fiscal year 1988-89)
2. Market Value (1987 Actual Market Value)
3. WADM (Estimated 1988-89 Weighted Average Daily Membership)
4. Percent AFDC (Percent of students in families receiving Aid to Families with Dependent Children, October 1987)
5. MV/PI Aid Ratio (Estimated 1988-89 Market Value/Personal Income Aid Ratio -- minimum value, .1500)
6. Population per Square Mile (1979-80 Census Information)

Two different subsidy systems (with three proposals under each system) were examined in the body of this paper. For each of the subsidy systems, the procedure used consisted of determining revenue generated from local resources for each school district and then adding that district's state subsidy. By multiplying the total market value for each school district by .0198 (19.8 mills), we determine how much local revenue would be generated by levying taxes at the statewide median. For each subsidy system, the local revenue is always calculated in this manner. Of course, what the state provides differs among the various alternatives. Each subsidy system is described below.

CURRENT SUBSIDY SYSTEM

The amount of money received by a district from the state is a relatively straightforward calculation. Each year a dollar amount, called the Factor for Educational Expense or FEE, is determined through legislation. Every school district receives base subsidy money from the state based on the FEE, their number of students (WADM) and their Aid Ratio.

Each district's subsidy entitlement consists of this base subsidy and three additional supplements. The economic supplement is paid to all districts which exceed the statewide median tax effort. The amount of this supplement is based on population density with denser districts receiving more money. The poverty supplement is paid to all districts that have 8 percent or more of their students in families receiving Aid to Families with Dependent Children. Finally, the small district assistance supplement is paid to all districts with aid ratios above .5000 that have less than 1500 total students. The current subsidy system also guarantees that all districts will receive at least 2 percent more than their previous year's allocation (excluding the small district assistance supplement).

17

1. Actual 1989-90 Subsidy

Under the current 1989-90 subsidy, the FEE is set at $2330. The amount that a district receives is determined by the procedure outlined above.

2. ASAP initiative

Under this proposal, the FEE is $2400.

3. FEE set at statewide median expenditure level

The FEE is set at the statewide median Instruction Expense per WADM. In 1988-89, this is approximately $3032.

GUARANTEED BASE SUBSIDY SYSTEMS

Under a guaranteed base system as outlined in this paper, every district is guaranteed a certain level of revenue per pupil -- assuming the district had tax effort at a specified level. A district would receive from the state as a base subsidy an amount equal to the difference between the guarantee per pupil and the amount of revenue generated by the specified tax effort in that district. In addition, the Economic, Poverty, and Small District Assistance Supplements, as they exist in the current subsidy system, would be added to this base subsidy. Districts are free to tax less (and have fewer resources) or tax more (and have more resources).

4. Guaranteed Base without recapture

The specified tax effort is the statewide median of 19.8 mills on market value. The guaranteed base is $2990. This figure represents the current median level of resources per pupil in Pennsylvania based on median tax effort and the current base subsidy (excluding any subsidy supplements). While some districts might generate more than $2990 per student from local sources (when taxing at the statewide median), these districts would not have to pay the excess revenue to the state (i.e., the minimum base guarantee would be $0).

5. Guaranteed Base with recapture

This is the same as the previous proposal, except those districts which would receive more than $2990 per pupil in local revenue from 19.8 mills would have to pay to the state the excess revenue.

18

6. Guaranteed Base with a hold harmless

This is the same as system four (Guaranteed Base without recapture), except no district would receive less than they would under the current Subsidy (system one).

19

END

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