DOCUMENT RESUME

ED 078 553 EA 005 220

TITLE	Superintendent's Advisory Committee on School Finance. Occasional Paper No. 3.
INSTITUTION	Illinois State Office of the Superintendent of Public Instruction, Springfield. Advisory Committee on School Finance.
PUB DATE	Dec 72
NOTE	88p.; Compiled by Department of State Governmental Relations
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Advisory Committees; Capital Outlay (for Fixed Assets); Educational Equality; *Educational Finance; Educational Opportunities; Educational Programs; *Equal Education; *Equalization Aid; Property Taxes; School District Spending; School Support; School Taxes; State Aid; *Tax Allocation; Tax Support
IDENTIFIERS	*Illinois; Income Taxes

ABSTRACT

This document consists of a series of papers by different authors on the subject of school finance and equal educational opportunity. One group of papers studies the effect of State aid on the scope of the educational program, reports on the status of capital assistance financing for the Illinois Public Schools, and illustrates the method of computing the number of weighted pupil instructional units (WPIU). A second group of papers presents the Illinois Education Association (IEA) school finance proposal and a proposed recommendation to the superintendent of public instruction, examines disparities among school districts in Illinois and State fiscal policy, presents a longitudinal study to determine whether Illinois schools are becoming more equally financed over time, describes initial efforts to stimulate application of district power equalization to Illinois Public Schools, and compares the relative contributions of the property and personal income taxes to equalization of public school support. Related documents are ED 060 544 and EA 005 217-219. (Author/DN)

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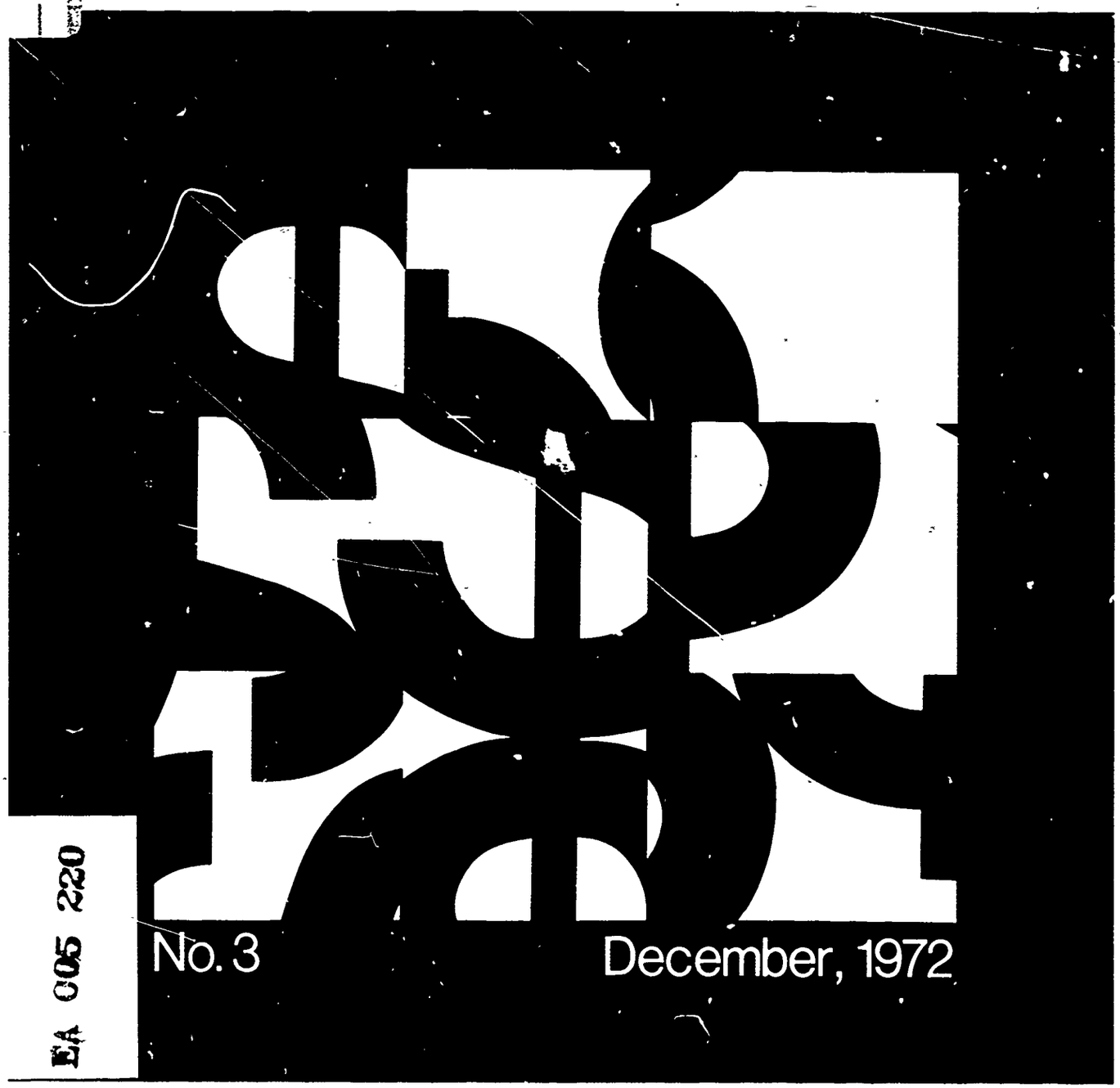

No. 3 December, 1972

AN OCCASIONAL PAPER

of

THE SUPERINTENDENT'S ADVISORY COMMITTEE ON SCHOOL FINANCE

Compiled by:

The Department of
State Governmental
Relations

The Office of the
Superintendent of
Public Instruction
State of Illinois

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This is the third occasional paper of the Superintendent's Advisory Committee on School Finance. Its purpose is to stimulate discussion of the problems of school finance and to keep the public informed of the progress of the Advisory Committee.

The papers and discussion contained in this volume do not propose or endorse any single solution to the problems of school finance. Rather, they represent preliminary research and suggest the many topics which must be investigated before any alternative to the present system of funding public education can be proposed. Matters of fact and opinion expressed herein are therefore solely the responsibility of the authors and do not necessarily constitute the views of either other members of the Advisory Committee or of the Office of the Superintendent of Public Instruction.

The papers contained in this volume were presented to the Advisory Committee between June and October of 1972. While it has been our practice in previous Occasional Papers to include the Committee's discussion on all the presented reports, time prevents us from doing so in this volume. The discussion from the June meeting of the Advisory Committee is, however, included.

THE EFFECT OF STATE AID ON THE SCOPE OF THE EDUCATIONAL PROGRAM

by

A. James Heins and Deborah L. Nutting

In this paper we develop a regression model to examine the relationship between the scope of a state's educational program (elementary and secondary) and other attributes of the state. Our major purpose is to determine the impact of state aid to the common schools on that scope. We also have other findings that we believe to be of interest.

I. The Effect of Grants-in-Aid on Spending

A major unanswered question in the literature of public finance relates to the effect of financial aid from a higher level of government on the spending of lower levels of government receiving the aid. [illegible] it seems counterintuitive, there is very good theoretical evidence that bloc grants from above, financed out of internal taxes, will be met totally by tax relief in the recipient units of government.

(The essence of this theory is laid out in [References 4, 7, 11, 12]. Moreover, what little empirical evidence we have seems to bear out the theory. See [Reference 1, 6]. Note that these considerations apply to bloc (flat) grants; matching grants might be expected to have stimulative effects on expenditures through the carrot phenomenon. Theoretical considerations of the differences between bloc and matching grants are contained in [References 3, 5, 7, 10, 11, 12].)

An application of this notion to educational finance leads us to hypothesize that states in which the bulk of finance comes from state sources will spend no more for education than states in which the bulk of the finance comes from local sources, other things equal. This follows from the theory since virtually all aid to common schools comes in the form of bloc grants, or at least non-matching grants.

The importance of this consideration is clear. In redesigning the structure of educational finance within a state, increasing state financial involvement in the interests of equalization of educational offerings among the various districts of the state cannot be expected to increase overall expenditures within the state for educational purposes. Conceivably, such a restructuring might even lead to a reduction in overall scope. That is, when scope is determined by actions of the state legislature, less finance may emerge in the aggregate than would be forthcoming from the political actions of a fragmented set of school districts.

II. A Regression Model

In the interest of developing empirical evidence that bears on these questions we pose the following regression model. Our dependent variable is the scope of a state's educational program as measured by expenditures per student in average daily attendance taken from [Reference 8].

Our primary independent variable is the degree of state financial involvement as measured by the percentage of internal finance coming from the state (as opposed to local) government. Essentially, this variable is derived by dividing state taxes for educational purposes (elementary and secondary) by the total of state and local taxes for such purposes and is taken from [Reference 2]. We hypothesize that the coefficient of this variable will not be significantly different from zero. Essentially, this would mean that the degree of state government financial involvement would have no impact on expenditures per student.

We include other variables mainly for control (specification) purposes, recognizing that some of the variables have theoretical interest of their own. The second independent variable is federal aid to the various states as measured by federal aid to all levels of government within a state -- essentially the state government itself plus school districts -- divided by total spending for education within the state. The data come from [Reference 2]. While our principal hypothesis simply applied would lead us to predict a zero coefficient here, the analysis is complicated by the problem that federal aid tends to be equalizing among states. That is, poor states tend to receive more in aid than they pay out in federal taxes. (Our findings indicate a simple correlation coefficient of -0.41 between the federal aid variable and per capita income of a state.) This means that federal aid, unlike state aid, is not a zero sum game within a state; and hence it may have a positive effect on expenditures per student, if discernable at all.

We also included two tax structure variables on the grounds that the taxing institutions within a state employed to distribute the burden bear on the politics of expenditure decisions. It is axiomatic among public choice theorists that tax costs borne by citizens determine, in part, their demands for public services. The first such tax variable is measured by state sales taxes divided by the total of state sales plus income taxes, data coming from [Reference 11, p. 11]. The second is an index of tax progressivity within a state taken from [Reference 9, p. 260]. As expected, these variables are highly correlated, having a simple correlation coefficient of -0.55 from our data. While we develop no rigorous theory to generate a hypothesis here, our intuitive notion is that progressive tax institutions will generate, on balance, greater demands for education. That is, we expect a negative coefficient for the first tax structure variable and positive for the second. (Sophisticates will note the clear causality or specification problem here.)

We also include an index of equalization of spending among the school districts within a state from [Reference 9, p. 250]. We have no *a priori* hypothesis here. Similarly, we include an administrative structure variable at the suggestion of members of our state committee considering educational refinance. This variable is measured by total enrollment divided by the number of school districts; that is, the average size of school district in a state. Data come from [Reference 8]. Again, we have no *a priori* hypothesis.

Our last variable is per capita personal income of the states [Reference 11, p. 50]; we include this variable for specification purposes only. Clearly this variable will be the most important and carry a positive sign. That is, rich states can be expected to spend more for education than poor states. (Just as they spend more for almost everything else.)

We present the following summary of our variables:

E = expenditures per student.

S = percentage of state aid.

F = percentage of federal aid.

T_1 = sales taxes as a percentage of sales plus income taxes.

T_2 = index of tax progressivity.

Q = index of expenditure equality.

D = average size of school district (in thousands of students).

Y = per capita income.

III. Regression Results

Our regression results are reported in Table 1. The matrix of simple correlation coefficients is shown in Table 2. Because the results are evident, we offer only a few words of comment.

In all variants of the regression analysis the coefficient of the State aid variable is negative and insignificant (save one case) at the five percent level. If state aid has a positive impact on educational expenditures, that impact does *not* show up in our analysis of these aggregate state data. This meshes with our hypothesis and the conventional theory of grants.

The federal aid variable has a positive sign, but is insignificant in every case. This is about what we expected.

The sign of the average district size variable is negative in all cases, but again insignificant. Since we had no *a priori* hypothesis, we are not surprised.

The tax structure variables had the signs expected under our intuitive hypothesis; and they are significant in every variant in which they were included. These results imply that a more progressive tax structure is consistent with greater public demands for educational expenditures.

The index of the equalization variable has a positive sign, but is insignificant in all variants. Again, we had no *a priori* hypothesis and are not surprised.

As expected, the coefficient of the income variable was highly significant and stable over all variants of the regression. The coefficient of about 0.20 indicates that for every dollar increase in per capita personal income, states tend to spend about 20 cents more per student. As of 1969, about 22 percent of the U.S. population was enrolled in public elementary and secondary schools. A simple transformation from the latter two numbers provides a rough approximation of 4.40 percent as the marginal propensity to consume public education in the United States.

In general, the R^2 are high for cross-section analysis of this type The correlation matrix indicates some multicollinearity. Because of the high correlations (blocked out in Table 2) between variables of lesser importance, we ran the five regression variants. The stability of the significant coefficients, and continuing insignificance of the others across all variants, contribute to the reliability of our results.

Table 1

Regression Results:

B Coefficients and T-Ratios (in parenthesis)

Variable	Variant				
	(1)	(2)	(3)	(4)	(5)
S	-1.19 (-1.03)	-2.84 (-2.31)	-0.34 (-0.32)	-2.20 (-1.85)	-1.55 (-1.31)
F	0.77 (0.22)	0.72 (0.21)	1.56 (0.44)	1.48 (0.43)	0.56 (0.15)
T_1	-1.06 (-2.12)		-1.18 (-2.34)		
T_2		23.99 (2.49)		26.31 (2.72)	
Q	25.87 (1.64)	24.87 (1.61)			30.66 (1.89)
D	-0.56 (-0.80)	-0.70 (-0.96)	-0.32 (-0.46)	-0.44 (-0.64)	-0.57 (-0.78)
Y	0.20 (6.89)	0.18 (6.00)	0.21 (6.89)	0.19 (5.95)	0.21 (6.88)
R^2	0.65	0.66	0.62	0.64	0.61
INTERCEPT	-27.93 (-0.19)	-341.6 (-2.12)	52.25 (0.37)	-295.93 (-1.83)	-124.88 (-0.87)

Table 2

Matrix of Simple Correlation Coefficients

	E	S	F	T_1	T_2	Q	D	Y
E	1.00							
S	-.23	1.00						
F	-.30	.44	1.00					
T_1	-.34	.14	.12	1.00				
T_2	.30	.54	.12	-.55	1.00			
Q	.06	.60	.31	-.04	.46	1.00		
D	.10	.44	.02	-.00	.41	.43	1.00	
Y	.75	-.21	-.41	-.17	.22	-.04	.22	1.00

IV. Implications

The principle implication of this paper is simple. A state legislature may buy a proposal to restructure the system of educational finance under which the state contributes a much high' percentage of the money. Having bought the system, however, we cannot hold much hope that the legislature will then appropriate the money needed to enhance the overall scope of the educational program in the state. Moreover, to the extent school districts remain free to contribute their own resources to enhance their program, we expect the districts to greet increased state aid with tax relief.

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STATE OF CAPITAL ASSISTANCE FINANCING FOR THE ILLINOIS PUBLIC SCHOOLS*

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Persons concerned with providing adequate school facilities for elementary and secondary school children in Illinois have been debating the merits of various capital financing plans for some time.

What constitutes a "good" plan depends upon a number of considerations--philosophic, economic, political, social and educational--as well as the individual's personal frame of reference. Some persons debate from the standpoint of assuring the right of local determination of need and see the provision of financial support as a fundamental responsibility of local school districts. Some have advocated changes in the approaches to financing facilities to overcome the disparities and inequities they perceive.

Recent court decisions lend credence to arguments that ways to finance schoolhouses must be found that will equalize tax burdens on a statewide basis and provide facilities of comparable educational quality. Everyone recognizes that revenues, from whatever source, are in scarce supply and priority setting and planning are needed to allocate school facility resources rationally. Regardless of the ultimate court action, it is apparent that in many communities there is an ever-widening gap between the need for facilities and local ability to provide them.

This paper represents the definition and analysis of this school facilities finance problem as it is currently perceived in Illinois. The scope of this paper is limited primarily to capital outlay and debt service for public elementary and secondary school facilities. First, the present Illinois capital financing program is summarized to provide base-line information. Second, an assessment of needs is sketched out to determine the magnitude of demand. Sources of revenues and the provision of financing are analyzed in section three to calculate the extent to which supply and demand coincide. Fourth, the changing scope and focus of allocation and distribution plans are discussed to draw out assumptions underlying alternative finance plans. In the fifth and final section, alternative plans are presented.

I. SUMMARY OF CAPITAL OUTLAY FINANCING FOR ILLINOIS SCHOOLS

Existing assets and indebtedness

In 1968-69 Illinois School districts reported capital assets valued at original cost totaling over $3.4 billion. The summary of capital assets reported by districts on their annual financial report is shown in Table 1. One can only speculate on the replacement or current appraisal value of this enormous statewide physical plant.

Table 1.--Summary of Capital Assets, 1968-69, on a Historical Cost Basis

Buildings	$3,2[illegible],874,202
Land improvements	38,855,451
Land	213,499,506
Total	$3,453,229,159

Source: OSPI

How much of this $3.4 billion in fixed assets was unencumbered? In the same year, 1968-69, total bonds outstanding represented 42 percent of the total value of capital assets. The summary of bonds outstanding and interest payable is reported in Table 2. Bonds outstanding have been running approximately two-fifths of the total capital assets reported. The dollar amount of bonds outstanding peaked in 1968-69 at $1.457 billion and has gradually declined since then due to lower demand and fewer successful bond referenda.

*This is a working paper prepared for the State Superintendent's Advisory Committee on Capital Assistance. The purpose of this paper is to stimulate thought and discussion on capital financing assistance. Matters of fact and opinion expressed herein are solely the responsibility of the author and do not necessarily constitute the views of members of the Advisory Committee or the Office of the State Superintendent of Public Instruction, May, 1972, Urbana, Illinois.

Table 2.--Summary of Bonds and Interest Payable, 1968-69

Year	Bonds outstanding	Interest to maturity	Total
1970-71	$1,423,690,562	$362,920,875	$1,786,611,437
1969-70	1,443,866,272	371,724,397	1,815,590,669
1968-69	1,457,187,956	381,841,753	1,839,029,709
1967-68	1,378,102,169	291,931,989	1,670,034,158
1966-67	NA	NA	NA

Source: OSPI

Financing methods

Local general obligation bond issues, local building funds and a state loan program administered by the School Building Commission are principal sources of school building funds. Additionally, the state grants monies for the construction of special education facilities. The proportion of capital outlay financing undertaken through the local building fund and through bond issue proceeds placed in the site and construction fund is shown in Table 3. The gradually increasing reliance on pay-as-you-go financing versus long-term indebtedness is shown in Table 3 by the increasingly larger proportion of expenditures charged to the building fund. Minor expenditures also were made for capital outlay and charged to the capital improvement fund.

Table 3.--Expenditures for Site Acquisition, New Buildings, and Improvements

Year	Building fund	Percent of total	Site and construction fund	Percent of total	Total
1970-71	$69,939,499	35.6	$126,297,313	64.4	$196,236,812
1969-70	66,373,363	32.8	135,375,377	67.2	201,748,740
1968-69	60,139,761	29.7	142,227,103	70.3	202,366,864
1967-68	56,865,331	31.7	122,031,937	68.3	178,897,268
1966-67	49,165,189	29.5	117,445,606	70.5	166,610,795
1965-66	15,855,648	13.5	101,187,114	86.5	117,042,762

Source: OSPI

Capital equipment and replacement equipment expenditures charged to the educational, building, and site and construction funds are shown in Table 4. The initial complement of equipment is appropriately included in expenditures charged to the site and construction fund.

Table 4.--Expenditures for Additional (New) and Replacement Equipment

Year	Educational fund	Building fund	Site and construction fund	Total
1970-71	$26,447,156	$6,719,365	$7,739,993	$40,906,514
1969-60	24,118,104	6,783,105	5,485,912	36,387,121
1968-69	20,990,136	5,457,367	7,811,079	34,258,582
1967-68	22,293,170	6,336,154	8,313,607	36,942,931
1966-67	19,196,919	3,867,406	6,248,356	29,312,681
1965-66	16,642,676	3,903,056	5,620,846	26,166,578

SOURCE: OSPI

Local Provisions

Debt limit

School bonds may be issued for capital outlay not to exceed six percent of the equalized assessed valuation of an elementary district (K-8) or a high school district. A unit district's debt limit is the composite of the dual limits or 12 percent of equalized local assessed valuation. Property is theoretically assessed at 50 percent of fair cash value, but the 1966 Census of Government's study reported as assessment sales price ratio of 39.3 percent. A district with voter approval may exceed the above debt limitation only by borrowing funds through the Illinois School Building Commission.

Bond issues

Each school district has complete responsibility for the initiation of bond issues. State approval is not necessary. The issue must be approved at a special election by a majority vote of the qualified electorate who participate. Only serial bonds may be issued for a maximum period of 20 years. Bonds are sold on the municipal bond market on a yield basis. The present maximum permissible interest rate is six percent, after a temporary increase during 1970-71 to seven percent which terminated December 31, 1971.

Nationally, the average net interest cost in 1968 was 4.86 percent, in 1969 it rose to 5.79 percent, and the 1970 average was 6.34 percent after peaking at 7.12 percent in early 1970. Bonds are amortized and interest and service charges paid through a district levy of the amount needed for the bond and interest fund.

Building fund

School districts maintaining grades kindergarten through 12 may establish a cumulative building fund within the legal limit of a .75 percent rate per dollar of equalized assessed valuation. This must be done with the approval of the voters. Accumulation of funds by this method cannot exceed the debt limits stated above.

What does it take to service the local debt? Table 5 shows the magnitude of debt service over five recent years.

Table 5.--Bond Principal Retired and Bond Interest and Bond Service Charge Expenditures

Year	Bond principal retired	Bond interest and service charges	Total
1970-71	$120,779,632	$51,538,756	$172,318,388
1969-70	113,836,792	54,279,679	168,116,471
1968-69	103,427,545	50,263,435	153,690,980
1967-68	96,513,760	44,489,325	141,003,085
1966-67	93,888,418	40,269,657	134,158,075
1965-66	88,106,984	39,472,916	127,579,900

Source: OSPI

State Provisions

The Illinois state support program has porivded only nominal aid for facilities construction in the past, but the volume of support is increasing.

State grants

A minor grant program for special education facilities was established in 1967. Dual districts must levy a .02 percent qualifying rate and unit districts .04 percent for a special education building fund and the state allocates $1,000 per professional special education employee to be used for building purposes. During the 1972 fiscal year $6,500,000 were appropriated for such purposes.

State loans

The School Building Commission receives a state appropriation to a fund for loans to districts that have reduced their bonding power to less than $5,000. The loans are interest free and are repaid at the rate of six percent per year, or in 16-2/3 years. Local school boards are authorized to levy a special tax sufficient to provide rental payments. The levy must be approved by a majority of those voting in a referendum to authorize the project and the rental payments. Title to the facility remains in the name of the State of Illinois until the entire project cost is repaid by rent payments. Over 150 school buildings have been completed for Illinois school districts participating in the rental program since its inception in 1958. In 1971-72, $67,850,000 was authorized to the School Building Commission fund, including $1,850,000 for emergency (disaster) construction.

State building authority

The Illinois Building Authority (IBA) was authorized by 1969 legislation to purchase sites, construct and provide fixed equipment and facilities for local school districts through lease-rental arrangements for the School Building Commission. The IBA is currently building facilities financed by revenue bonds for the Chicago public schools. The General Assembly may appropriate funds to the Illinois Building Authority for the lease obligation of the Commission and local districts repay the state directly. Local districts must have reduced their bonding capacity to $5,000 or less in order to participate. Application is made through the School Building Commission, and one year renewable leases are executed by participating districts and the authority.

Federal Support

A few districts benefit from facilities aid programs granted to federally impacted areas under Public Law 815. In 1970-71 a total of $550,120 for capital outlay purposes was expended in Illinois under the federal impaction program. Additionally, vocational education capital outlay from the federal government disbursed through OSPI amounted to $3,000,000 in 1970-71.

II. ASSESSMENT OF NEEDS

This section partially outlines the information that is a prerequisite for an accurate needs assessment. The general topics covered are public school construction trends (volume and cost), projection of needed construction, and measures of need.

Public school construction trends

In 1969-70 the number of publicly-owned school ouildings in Illinois was 4,930. The October 1971 Annual Housing Report information is being processed now and this current compilation should give accurate figures on how many classrooms were constructed, abandoned, converted, and in use at the year end. The number of new and additional classrooms completed in each of the past three years in Illinois according to *School Management* is shown in Table 6.

Table 6.--Number of Classrooms Constructed in Illinois

	1969	1970	1971*
Elementary rooms			
New	881	528	615
Additions	279	318	205
Secondary rooms			
New	1,031	1,041	1,136
Additions	561	333	248

*Estimated completions.
Source: *School Management*, June, 1971.

In dollar terms as shown previously in Tables 3 and 4, slightly over $200 million has been spent for site and facilities plus about $35 million for equipment in each of the past two school years. Approximately two-thirds of this annual investment in fixed facilities has been financed through long-term indebtedness.

Construction cost data compiled by *School Management* show the average cost per classroom in Illinois for 1969 through 1971 as follows:

Table 7.--Average Cost Per Classroom

	1969	1970	1971*
Elementary rooms			
New	$37,000	$38,000	$44,000
Additions	35,000	39,000	41,000
Secondary rooms			
New	52,000	62,000	72,000
Additons	71,000	56,000	76,000

*Estimated completions.
Source: *School Management*, June, 1971.

Much of the rise in expenditures for capital outlay is due to rising prices. The composite construction cost index rose 48 percent between 1960 and 1970 (U.S. Department of Commerce Index). In other words, the $200 million expended in 1970 for sites, buildings, and improvements represents only $135 million worth of facilities based on 1957-1959 average dollars.

Educational program trends will have substantial impact on school facility design over the next decade. New programs in early childhood education and more extensive laboratory experiences are likely to generate a demand for a particular type and number of classrooms. Other trends that have implications for facility planners and which may reduce capital outlays are year-round school programs, multiple usage and joint occupancy of facilities, and the rapid development of systems buildings.

Projection of needed construction

The existing volume of school construction in Illinois may not be a good indicator of the need for new facilities. More likely, the amount of new capital outlay is a measure of tax-paying capacity and the cost and availability of long-term credit. The needs and wants are also reflected in the success/failure ratios of bond referenda attempted. The success ratio nationally is hovering just above the 50 percent mark.

An accurate forecast of needed construction should be based on pupil population projections to 1980 and beyond by age groups 3-17, and by county or smaller geographical region. Such population projections can be used to determine the number and general type of classrooms needed as various age cohort groups pass through the schools. At the same time, the existing facilities' capacity, condition, and stage of educational obsolescence must be determined and the number of usable classrooms projected by geographical area. A comparison, over time, of the supply and demand for facilities will give a better picture of facility requirements. This forecast will enable the state to establish priorities and schedule construction of new facilities, abandonment and replacement of facilities, and renovation and modernization of existing favorably located school buildings. The legislature should be encouraged to appropriate monies to conduct a statewide schoolhouse survey and inventory.

Illinois falls into the category of states with slightly decreasing (-0.56 percent to -4.95 percent) population over the decate of the 1970's in age groups 5-17 according to the National Capital Outlay Project.[1] If portions of the three- and four-year-old age groups are enrolled, the pupil population statewide will be stabilized. Intrastate migration patterns will undoubtedly place a burden on suburban districts as population shifts continue from rural to urban/suburban, and from core city to suburban areas.

The major concern for physical facilities in recent years has been to house an ever-increasing number of public school pupils. Some areas in Illinois, due to population mobility, will continue to face problems of increasing enrollment. Overall, the stabilizing (and perhaps temporary decline) of pupil population growth provides the state with a breathing spell in which to reorder its priorities. The backlog of demand for replacement of physically and educationally obsolete facilities is great. The precise calculation of replacement needs is essential for sound planning. Additionally, the demand for rehabilitation and renovation to overcome technological and educational obsolescence must be determined. Areas of declining enrollments in the traditional 5-17 age groups will likely find any surplus classroom space taken over by early childhood programs if the trend for earlier enrollment continues through the decade. Early childhood education programs may impose an additional burden on facilities in the areas where general in-migration already tends to create a shortage of classroom space.

Measurement of need

In the absence of systematic assessment based on a rigorous pupil population projection and physical inventory, traditional rules of thumb can be used to estimate needs. An extrapolation of historical trends utilizing the ratio of capital outlay to total public school operating expenditures will yield an estimate of need. Although there is no fixed relationship between these two, it does give an approximation of the existing level of capital outlay financing. Table 8 summarizes 20 years' actual expenditures and projects these over a five-year period at the overall average rate of increase (10.6 percent). Note that the total capital outlay figure includes capital outlay for transportation equipment, e.g., school buses, amounting to just under $6 million in 1970-71.

If total operating expenditures continue to rise at the same rate (10.6 percent) as they have since 1950-51, and the ratio between capital outlay and operating expenditures remains constant at the recent five-year average of 13.3 percent then total capital outlay in 1973-74 is estimated to exceed $397 million and will rise to $486 million by 1975-76.

Another approximation of need can be derived from nationwide projections of facility requirements. The National Capital Outlay Project relied on USOE figures to show the needs of specific educational programs including a proportionate part of the backlog existing in 1968 of some 519,300 classrooms needed nationally. It was estimated that 9,348 new classrooms would be needed annually for early childhood education.[2] Based on the fact that Illinois has 5.13 percent of the national pupil population in elementary and secondary schools, this state's portion of the 123,813 classrooms needed annually in the 1970's amounts to 6,352. Using the Special Study's figure of $63,000 average capital outlay per classroom, Illinois classroom needs in dollar terms will amount to slightly over $400 million annually (1968-69 dollars) during the decade.

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[1] Bureau of Surveys and Administrative Studies (Indiana University), *Financing Public Elementary and Secondary School Facilities in the United States*, National Educational Finance Project, Special Study No. 7 (Bloomington, Indiana: School of Education, Indiana University, 1970), p. 60.

[2] Ibid., p. 64.

This $400 million annual outlay approximates the estimates based on capital expenditures as a continuing proportion of total operating expenditures. Until an accurate assessment based on a school-by-school survey is available, the reasonable prediction is that facilities outlays will be in the neighborhood of $400-450 million annually by 1975 if our expenditure patterns are not changed.

Chicago's recent modernization survey shown in the Appendix is an example of one approach to estimating facility renovation needs. Many school finance authorities believe the $240 million or so presently spent statewide for essential new and additional classrooms should be doubled until the backlog of replacement and renovation is overcome.

Table 8.--Actual and Projected Capital Outlay and Bond Retirements as a Percentage of Total Operating Expenditures

(All $ in 000's)

Year	Total operating expenditures	Percent increase over prior year	Total capital outlay	As percent of operating expense	Bond retirements	As percent of operating expense
(Actual)*						
1950-51	$ 299,096	-------	$ 63,851	21.3	$ 11,058	3.6
1951-52	327,707	9.6	69,870	21.3	11,348	3.4
1952-53	364,367	11.2	93,355	25.6	13,750	3.7
1953-54	396,493	8.8	108,557	27.3	17,079	4.3
1954-55	435,083	9.7	108,664	24.9	22,370	5.1
1955-56	481,391	10.6	116,297	24.1	29,102	6.0
1956-57	537,401	11.6	139,062	25.8	30,951	5.7
1957-58	598,943	11.5	145,697	24.3	36,534	6.0
1958-59	644,521	7.6	131,645	20.4	40,419	6.2
1959-60	727,950	12.9	115,786	15.9	45,066	6.1
1960-61	850,212	16.8	128,596	15.1	56,143	6.6
1961-62	848,289	-.2	153,133	18.0	55,507	6.5
1962-63	903,059	6.5	147,468	16.3	68,772	7.6
1963-64	958,704	6.2	157,046	16.3	75,281	7.8
1964-65	1,024,647	6.9	151,273	14.7	79,933	7.8
1965-66	1,190,778	16.2	181,671	15.2	88,107	7.3
1966-67	1,366,118	14.7	200,841	14.7	93,888	6.8
1967-68	1,518,890	11.1	220,334	14.5	96,514	6.3
1968-69	1,692,025	11.3	241,906	14.2	103,428	6.1
1969-70	1,934,600	14.3	244,088	12.2	113,837	5.7
1970-71	2,209,905	14.2	243,938	11.0	120,780	5.4
	20-year average	10.6	Recent 5-year average	13.3	Recent 5-year average	6.1
(Projected)						
1971-72	2,444,000	10.6	325,100	13.3	149,100	6.1
1972-73	2,703,000	10.6	359,500	13.3	164,900	6.1
1973-74	2,989,000	10.6	397,500	13.3	182,300	6.1
1974-75	3,306,000	10.6	439,700	13.3	201,700	6.1
1975-76	3,656,000	10.6	486,200	13.3	223,000	6.1

*Source: Illinois School Reports

III. PROVISION FOR FINANCING

This section covers sources of revenue--local, state and federal--and the type of financial support, i.e., grants-in-aid or long-term loans.

Sources

1. **Local.** Property tax almost exclusively.

2. **State.** Nonproperty tax revenue sources, sales and income taxes.

3. **Federal.** Income tax primarily.

The responsibility for financing public school construction in Illinois has been largely on local school districts. Given the constitutional debt limitations and statutory restrictions on tax rates, districts with rapidly increasing populations and limited assessed valuation have found themselves unable to provide school facilities by financing through local bond issues. The state interest-free loan program through the School Building Commission has enabled some needy districts to obtain the most essential classroom space, but the financial burden of rental payments to retire the principal amount has been shifted to current operating expenses, not necessarily mitigating the problems of these impoverished districts. Minor financial support in the form of PL 815 monies has come from the federal government.

Grants-in-aid provisions

Grants-in-aid can do much to shift the fiscal burden from local property tax levies to statewide revenue sources while permitting educational policy and facility decisions to remain at the local district level. By distributing such grants on an equalization basis, excessively low levels of service or inordinately heavy local tax burdens can be alleviated.

Grants-in-aid tend to broaden the support for financing school construction whether granted for debt service or construction. This broadened tax base results in reduced local indebtedness, an improved credit rating, and thus lower interest costs.

Potential disadvantages to grants-in-aid are presumed to include those related to the perpetuation of inefficiency and fiscal irresponsibility in the organization of school districts and in their internal operations. Other economic ramifications are those pertaining to the distortion of expenditure patterns to qualify for grants and artificially stimulating the flow of resources.[3]

Loan provisions

Public finance of facilities through borrowing, the traditional way schools are financed, is supported by economic theories related to the notion that the beneficiaries of a public good, present and future, should pay for it. The future users of the school facility will share the cost of borrowing for construction and subsequent repayment over two decades of use. The burden of large capital outlays and attendant tax increases are deferred. The floating of a bond issue enables private construction firms to receive immediate payment for their services. If construction costs are rising rapidly, the prompt completion of a project may reduce construction outlays more than enough to offset interest payments over a period of years. The burden of debt results in a transfer of funds from the private to the public sector at a later date as bond principal and interest levies are made.

The following advantages and disadvantages of state loan programs are enumerated in the NEFP Special Study No. 7.[4]

Pros	Cons
1. Funds are made available when needed, to the extent that funds are available, by increasing the fiscal capacity of school districts.	1. The tax base for repayment of loans is not broadened.
2. State loans are generally more economical than local borrowing.	2. Loan program funding may be too limited to meet other than most critical facility needs.
3. Local tax rates for debt service can be limited by state loans for debt service.	3. Objective criteria for awarding loans are not perfectly developed.

[3] Ibid., pp. 146-147.

[4] Ibid., p. 175b.

4. Loan qualification criteria can permit systematic facility and school center planning at the state level.

4. The loan program is subject to misuse without strong state standards.

5. Local control may be weakened through loan requirements.

With regard to federal sources of revenue the Special No. 7 concludes its discussion of federal support with the following:

> Federal grants-in-aid are suitable as a solution for closing the growing gap between state-local expenditures and revenues. Federal revenue, because of its primary dependence in the progressive income tax, is designed to grow at a rate faster than the GNP. With present tax rates, a one percent increase in the GNP brings forth approximately a 1.6 percent increase in Federal tax receipts. Implicit with economic growth, then, is an everexpanding volume of revenue at the Federal level. In order to avoid fiscal drag there is the necessity that either more expenditures be made, taxes be reduced, or a combination of both. Grants-in-aid could assist both Federal and state-local fiscal planning. The Employment Act of 1946 sets forth the responsibility of maintaining a high level of employment with stable prices. Grants-in-aid would serve as a countercyclical compensatory fiscal tool and assist state and local governments in their struggle for additional revenue sources to close their expenditure-revenue gap.
>
> Grant-in-aid programs lend themselves to solving expenditure-revenue problems within a Federal system in that they can be simple to administer, can comply with the principal of neutrality and horizontal equality, and can enhance the Federal system of government. Automatic distribution of the federally collected revenue on an annual basis would allow state and local governments to include these funds in their fiscal plans. State and local growth and development would then be automatically tied to the growing income tax base of the nation. Fairness and neutrality under such a plan could be assured by revenue distribution on the basis of school-age population and needs. All areas could be included--urban and rural, rich and poor, agricultural and industrialized, large and small.[5]

Answers must be provided to a series of additional questions that relate to the measurement and estimation of dollar support. Should support be on a per pupil basis? With differentials for elementary and secondary pupils? Or on a per classroom basis? Or should approved project costs as specified by OSPI based on facilities criteria determine dollar support?

Should dollar support be tied to school district reorganization?

[5] Ibid., pp. 95-96.

IV. ALLOCATION AND DISTRIBUTION OF CAPITAL OUTLAY SUPPORT

There is general agreement among school finance specialists that the allocation of capital assistance monies should be on a priority basis to serve first those districts which have the greatest need, that some type of equalization scheme is desirable to overcome differential ability to provide facilities, and that minimum housing standards must be developed to guide the state in allocating and distributing capital outlay support.

In the absence of adequately organized local school districts, criteria must be developed to restrict funds to districts meeting minimum organizational and size standards.

Similarly, consideration must be given to the development of minimum building standards in terms of quantity and quality of space to aid in determining those districts whose facilities are farthest from meeting minimum performance standards, including life safety code provisions. Grants and loans can be made on a state-local sharing basis using the minimum performance standards to determine approved project costs. Sharing arrangements, of course, should be designed to equalize the local ability to produce capital outlay monies. Capital outlay assistance would be given first to those districts with the greatest need in relation to the established standards. Over time, these minimum standards should be raised so that approved capital project assistance would be extended to more districts and to avoid a ceiling effect in the provision of adequate facilities.

It is believed by some authorities that variable sharing arrangements rather than matching grants or loans should be used to create an incentive for efficiency in design and construction for those districts agreeing to bring their physical plant up to established standards.

Any capital assistance program should be integrated with other fiscal support programs and administered in conjunction with similar educational fiscal activities under the jurisdiction of one agency. The administration of a capital outlay support program involves the continuing assessment of need and a periodic schoolhouse facilities survey and inventory.

Local school district master plans for the siting of attendance centers should be required from participating districts. Planning grants and competent technical personnel should be available from OSPI to aid the public school districts in developing master plans. Similarly, facility research and development activities should be encouraged and supported fiscally and technically by OSPI.

Assessment practices have a direct bearing on capital financing through (1) aggregate long-term debt limitations and (2) the ability to generate revenues for debt service and bond retirement. If the real property is to be a useful tax base, the entire property assessment process should be analyzed, evaluated, and redesigned to eliminate inequities, raise assessment levels, and establish uniform guidelines. Variations in assessment levels in assessment areas within a county result in property tax bases which do not reflect the true fiscal capacity of the districts. Assessment equalizers on multipliers only tend to exaggerate these within-county variations.

V. PROPOSALS AND ALTERNATIVES

Various programs for financing public school facilities are given detailed coverage by W. Monfort Barr and K. Forbis Jordan in their chapter "Financing Public Elementary and Secondary School Facilities" included as chapter seven in the third volume of the National Educational Finance Project entitled *Planning to Finance Education*. This excellent chapter identifies four alternatives which appear to typify current thinking on capital assistance programs. These alternatives are summarized here with some modifications to adapt them to the Illinois situation.

1. *Variable grants computed on recognized project cost.* This is an adaptation of the Strayer-Haig model to provide grants from state and/or federal sources, with such grants varying inversely with local tax-paying ability. The amount of the grant would be based on a recognized project cost less a uniform local tax effort. The recognized project cost would be computed by a formula utilizing the number of pupils or programs to be housed. The computed amount would cover a portion of the costs of the site, site development, construction, equipment and related items.

   The local school district would prepare educational specifications and facilities plans which OSPI would use to determine the recognized project cost. Based on this project cost, the amount of the grant from the state (or federal monies disbursed by the state) would be computed on a formula basis. The local district's required fiscal plan would outline how the local share would be obtained, e.g., from building funds or the issuance of bonds. The local share would finance any additional costs over and above the recognized project cost. Following OSPI approval of the fiscal plan the school district would enter into the construction contract, take over the completed building, and make final payment.

   This variable grant alternative would tend to equalize local tax burdens with funds allocated only to those districts with recognized facilities needs. The amount of the grant would be determined through an objective formula. OSPI could encourage construction to house specific educational programs by selecting items to be used in computing recognized project costs.

2. *Variable incentive grant computed on locally determined cost of project.* Like the first alternative this approach includes an incentive grant from state (and/or federal) sources varying inversely with local fiscal capacity, but actual construction costs would establish the project cost to be shared. State control would be maintained through a requirement for prior state approval of the school district's master plan. An established formula based on the number of inadequately housed students and local tax-paying ability would determine the state and local percentages of construction project costs to be shared. Operating procedures would be similar to those outlined under *1* above.

   The local share (from the building fund or long-term bonds) would be matched on an open-ended basis by funds from the state, thus providing an incentive for local determination of facilities requirements and solutions. Under the equalization feature, all districts regardless of fiscal capacity could provide comparable school facilities with comparable local effort.

3. *Variable grant computed on the basis of a pupil or instructional unit.* A recognized annual school plant depreciation amount would be determined by dividing the annual cost of school construction in Illinois by the number of years of anticipated useful service of such construction. This recognized depreciation amount would be converted to a uniform base amount expressed in dollars per pupil (or instructional) unit by dividing the annual depreciation figure by the rated capacity of the annual construction in pupil or instructional units. The variable grant would be determined by multiplying the base amount by the number of pupil units (e.g., ADA or ADM) or instructional units and then deducting the proceeds of a uniform local tax effort.

   Funds allocated would be used for construction or renovation, debt service, debt retirement, and rental of facilities. Unused balances would be accumulated and earmarked for future construction. The local share plus any supplemental amounts needed would come from the building fund or from long-term borrowing.

   All districts could participate in this equalized sharing plan which fosters local discretion in terms of how the monies will be used and when. The amount of nonlocal funds required each year would be easy to project. Likewise, differential weighting of pupil units would be easily accomplished. Continued state support for debt service would enhance the marketability of local general obligation bonds.

4. *Equalized grants for recognized debt service programs.* This alternative provides funds for future debt service payment only. Initially, the alternative is based on a recognized project cost for future construction (similar to that proposed in alternative *1* above) which is used in computing a recognized debt service grant on a predetermined formula basis. The recognized portion of debt service would be based on a formula taking into account the number of pupils and/or programs to be housed. The amount of the state grant would be computed annually and would vary inversely with local tax-paying ability.

   The equalizing formula and variable grants would provide a shared approach to providing property tax relief, but only to those districts with future debt service obligations.

The advantages and disadvantages of these four proposals are discussed at length by Barr and Jordan. The specific shortcomings of alternatives 1 and 2 are obvious: only new construction effort is aided--there is no provision for debt service assistance for prior construction.

Alternative 3 is a more encompassing approach, but its success is highly dependent upon appropriation levels. High construction demands in growing communities might exceed the annual allotment unless substantial reserves had been accumulated. The indirect effects of the proposals need to be studied carefully. Alternative 4 might become an incentive for school districts to finance facilities only by borrowing to gain debt service assistance.

Although the extent of federal assistance is vague, the possibility of such funding should be considered in a comprehensive capital assistance program.

Another proposal is contained in Superintendent Bakalis' *Action Goals for the Seventies.* School finance objective No. 4 was:

> By July 1, 1973, initiate through legislation a capital construction assistance program according to an *equalization* formula which would require that state reimbursement be at least 50% of the construction costs of new school facilities for districts with average financial ability.*

Steps considered necessary to carry out this action objective are:

1. Funds are to "be derived from the sale of bonds having the full faith and credit of the State of Illinois." These could be the state general obligation bonds or perhaps local bonds guaranteed by the state.

2. All schools constructed prior to 1965 are to be brought into compliance with minimum Life Safety standards.

3. OSPI will provide leadership and supervision in school facilities planning and services in the following areas: Surveys and comprehensive long-range planning; local plant surveys; administration of school plants; minimum design standards for school facilities; review of school plant surveys and educational programs; approval of school plant construction programs; standardized bidding documents and procedures; current school facilities inventories.**

Although this proposal has merit, it does not take into account the burden imposed by the tremendous construction effort put forth by many districts during the last decade. For some of these districts, all local bonding capacity has been exhausted and debt service is a constant burden.

The scope of the final Illinois proposals should include consideration of the following:

1. Local, state, and federal support.

2. Capital outlay *and* debt service assistance.

3. Reorganization requirements or incentives.

4. Extended school year plans.

5. Reorganization of OSPI under the proposed State Board of Education.

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*The Office of the Superintendent of Public Instruction, *Action Goals for the Seventies* (Springfield, Illinois: OSPI, 1972), p. 90.

**Ibid., p. 91.

6. Appropriation of funds for study and implementation of proposals for capital assistance programs, including a statewide schoolhouse survey and needs assessment.

The impact of these capital assistance proposals on the State of Illinois must be studied carefully. Attention is now being given to alternate sources of revenue at the state level. Recommendations and decisions must be made on the feasibility and desirability of financing these proposals by various means, i.e., whether state funding should be from current appropriations or via general obligation bonds.

This paper has reviewed the current status of capital financing of the Illinois public schools. Historically this financing has been almost exclusively a local obligation. The increasing and often-times inequitable burden on local school districts has prompted a reexamination of the way this financing is undertaken. Much work remains to be done to determine how best to finance school facilities. Let us get on with it.

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Illinois
Superintendent's
Committee on
School Finance
6-9-72

METHOD OF COMPUTING NUMBER OF WEIGHTED PUPIL INSTRUCTIONAL UNITS (WPIU)

(Program-Cost-Differentials)

School District:

Name_____

Address_____

Code_____ County and District_____

Fiscal Year 1970-71

	Program	Best 6 Mo. ADA or Equivalent Enrollees	FTE Pupil Load Factor	Number FTE Pupils Col. 2 x Col. 3	Cost Differential per FTE (NEFP Norms)	WPIU Col. 4 x Col. 5
	(1)	(2)	(3)	(4)	(5)	(6)
1.000	Kindergarten		1.00		0.65	
2.000	Elementary (Total Grades 1-8)		1.00			(Total Col. 6 of items 2.00, 2.220, 2.120, 2.130)
2.1000	Special Ed. for Handicapped		1.00		2.55	
2.110	Socially and Emotionally Maladjusted (Sub-total of 2.111 and 2.112)		1.00		2.95	
2.111	"Parental" Schools and other Residential Centers		1.00		2.95	
2.112	Pupils Assigned to Private Institutions for Treatment		1.00		2.95	
2.120	Remedial and Compensatory (Sub-total of 2.121, 2.122)		1.00		1.68	
2.121	Title I		1.00		1.68	
2.122	Speech Handicapped and School Social Services from Special Ed.		1.00		1.68	
2.130	Basic Elem. Program FTE's in Col. 4 (Item 2.000 minus Items 2.100, 2.110, 2.120)		1.00		1.00	
3.000	High School (Total Grades 9-12)		1.00			(Total Col. 6 of items 3.100, 3.110 3.120, 3.130 3.140)
3.100	Special Ed. for Handicapped		1.00		2.03	
3.110	Socially and Emotionally Maladjusted (Sub-total of 3.111 and 3.112)		1.00		2.66	

	Program	Best 6 Mo. ADA or Equivalent Enrollees	FTE Pupil Load Factor	Number FTE Pupils Col. 2 x Col. 3	Cost Differential per FTE (NEFP Norms)	WPIU Col. 4 x Col. 5
	(1)	(2)	(3)	(4)	(5)	(6)
3.111	"Parental" Schools and other Residential Centers		1.00		2.66	
3.112	Pupils Assigned to Private Institutions for Treatment		1.00		2.66	
3.120	Remedial and Compensatory (Sub-Total of 3.121, 3.122, and 3.123				1.83	
3.121	Title I		1.00		1.83	
3.122	Speech Handicapped and School Social Services from Special Ed.		1.00		1.83	
3.123	Remediation for Voc. Disadvantaged Pupils		0.55		1.83	
3.130	Vocational Education (Sub-Total of 3.131, 3.132, and 3.133)				1.80	
3.131	Orientation (9-12)		0.16		1.80	
3.132	Occupational Comp. H.S. (11-12)		0.28		1.80	
3.133	Occupational Area Voc. Center (11-12)		0.50		1.80	
3.140	Basic High School Program (Columns 2 and 4: Item 3.000 minus Items 3.100, 3.110, 3.120, 3.130)				1.25	
4.000	Grand Total for the District (Total of Items 1.000, 2.000, 3.000)					

(Figure to use in the finance models)

Instructions:

Column 2 includes a count of pupils in terms of the best 6 months' ADA totals of items 1.000, 2.000, 3.000, and 4.000. Note that kindergarten pupils are given full ADA count in Column 2 rather than 0.5 ADA in the present formula. Any kindergarten pupils in "Special Education" would be counted in the special program rather than in item 1.000.

Pupils in special programs may be counted in ADM, highest month enrollment, or the nearest equivalent to ADA.

In grades 1-8 (item 2.000 and its sub-items) the FTE pupil factor of 1.000 is based on an average course load of 4.5 unit credits. Since vocational programs and based on course enrollments it is necessary to convert course credits to FTE pupil factors. Hence, the area vocational programs with an average of 2.25 credit units divided by 4.5 equal an FTE factor of 0.50. This weighting procedure takes care of any duplicate counts of pupils in Column 2.

The cost differentials in Column 5 armultiplied by the number of FTE pupils in Column 4 to obtain the WPIU's in Column 6.

Note that Special Education (Item 2.100 and 3.100) excludes some emotionally disturbed pupils who are classified in items 2.110 and 3.110. Also, pupils for speech handicapped and school social services are listed under remedial and compensatory in items 2.120 and 3.120. Items 2.110 and 3.110 include: pupils in detention schools or other institutional arrangement for delinquency, emotional illness, home and hospital bound. This category includes some pupils from special education, handicapped pupils in private agencies, and the Chicago "parental" schools.

The remediation program for vocationally disadvantaged pupils (Item 3.123) is given an FTE factor of .55 which was the average basic education component of Vocational pupils in the sample from which the norms were derived. This value of 0.55 gives these pupils the weighting of 1.83 for compensatory instruction rather than the weighting of 1.25 for the non-vocational instruction which they would otherwise receive. The weighting of 1.25 for basic programs in grades 9-12 is already used in the Illinois state aid formula, hence this figure is retained rather than applying the 1.28 figure of the NEFP.

JUNE MEETING

HICKROD: We will begin today with a paper by Jim Heins - The Effect of State Aid on the Scope of the Educational Program.

HEINS: The primary thrust of this paper is simply that the amount of state aid does not have anything to do with overall expenditures for the educational programs in any given state. For example, knowing that one state pays for 80% of the educational program and that another state pays only 20% of the cost of its educational programs tells you nothing of the overall scope of the programs in those two states. These findings seem to imply that if a state were to increase its share of the burden from say 45% to 80%, the scope of the educational program would not change. Of course, you have to be somewhat skeptical of this finding but, on the other ahdn, I don't want to overstate the limitations either. I happen to believe that the findings are just that.

Let me explain some of the items in this paper. In Table 1, Variant No. 1 is nothing more than an equation which estimates the impact of six variables on the amount of educational spending in any given state. The first variable (S) is the percentage of the state's share of state and local funds for elementary and secondary education. The second variable (F) is the percentage of total expenditures for educational purposes picked up by the Federal Government. The third variable (T_1) is simply state sales taxes divided by state sales plus income taxes. It is the relative percentage of state taxes coming from sales taxes. The second tax variable (T_2) is an index of tax progressivity which comes from the National Educational Finance Project. The fifth variable (Q) is the index of the equality and expenditures among the school districts of the state. This variable also comes from the NEFP. In this index, the higher the number the more equal the educational expenditures between districts within the state. I frankly do not know precisely what the measure is. It could have been a general ratio or a coefficient of variation.

The "D" variable is a factor which I introduced to control for the size, number and organization of school districts within a state. It is simply the average size of the school districts of the state. I thought it was the simplest and yet perhaps the best measure to account for that factor. The 7th variable is per capita income of the state which we obviously don't expect to be the biggest determinant of expenditures.

The dependant variable in which we are interested is the expenditure per student in average daily attendance is any given state. I used B coefficients rather than Beta coefficients for these variables. I debated putting in either one but chose the B coefficient. I didn't think that it was necessary to reduce it or standardize it. Furthermore, the income coefficient is most interesting as a B coefficient. We can, of course, translate them into the Beta coefficient. The other variables are essentially for control purposes. That is to say, to allow for things such as the character, organization and administrative structure of the various states. We also have to control for income, Federal Aid and the tax structure. Anyway, the results shown here are that, indeed, state aid is not a significant determinant of educational expenditures. The coefficients are negative which indicates that the more a state spends relative to the local government, the lower will be the overall expenditures for education.

COMMENT: Say that again.

HEINS: The value of the coefficient is negative. If we assume that the real relationship were embodied in that negative coefficient that would mean that the higher the percentage of expenditures on education picked up by the state government as opposed to the local level of government the lower will be overall expenditures per student.

COMMENT: You have controlled for wealth?

HEINS: That is when you control for wealth, that's correct.

STRONG: In other words, we can assume that the poorer states are the ones that have the big chunk of state aid.

HEINS: The number relating the S variable to the Y variable is a minus 2.1 which is not a terribly high correlation coefficient but it is modestly negative which means that on balance the richer states tend to pick up less of the overall cost of education.

COMMENT: Poorer states pick up more?

HEINS: That's right, that's only on the average.

COMMENT: You control for wealth and you still say that the higher the percentages of state aid the lower the expenditures for that state will be?

HEINS: That's right, if you believe the negative coefficient. However, the coefficient is not statistically significant. Therefore, we would say that it is just not different from zero. There is no reason from the data to suppose that the theory is not correct. Namely, that state aid has nothing to do with expenditures per student.

COMMENT: So how you pay doesn't make much difference but wealth does.

HEINS: Wealth is obviously the major determinant, as I knew it would be. Let me digress a moment and briefly explain regression analysis for those who aren't familiar with this. The purpose of the analysis in this case is to determine if there is a correlation, a relationship, between our dependent variable, expenditure per student, and our independent variables. There is no reason to suppose that that is not what has happened here. On balance, the size of the numbers are well within the bounds of manageability for the regression technique. Furthermore, there are only a few cases where they are so high that they might be troublesome. I tested the stability of the regression coefficients and found a high degree of stability. No coefficient loses significance. No coefficient gains significance. In fact, the value of the coefficients that we know are important, such as income variable, are very stable in the face of the changes. These are good indications that the technique is doing what it is suppose to do. We could translate that into what might happen in a state if we want to propose a structure under which the state would become the major supporter of education, say 90% state support. We would probably find that the overall scope of the educational program in the state wouldn't change much. By scope I mean the average expenditure per pupil.

COMMENT: It would certainly change the distribution of expenditures within the state.

HEINS: Translated in terms of the changes of distribution of expenditures would probably mean that in the wealthier districts expenditures per student might come down a bit and in the poorer districts expenditures per student might go up a bit.

HUBBARD: Can you explain why this dod not happen in Illinois when, in the last six years, we have gone from 21% to 38% state funding? I know there are at least two districts that reduced their tax rates during that time.

HEINS: Well, the reason for that is, and that is why we are using cross-section analysis here, the change in the demands for education. In other words, even if the state had not decided to appropriate more money to schools, the districts would have.

COMMENT: How do you distinguish between tax relief at the local level and the state just increasing aid? I don't know whether its tax relief or the state just moving faster than the local support.

HEINS: Well, because you know that in those states where state aid has gone up very fast to a point where it is 95 or 80 or 70 percent, they don't spend any more than the other states. Of course, we must remember that this is cross-sectional analysis. It is not time-series analysis. There is no way to use time-series analysis here because there are terrible correlation problems.

HUBBARD: One thing that bothers me is that when we increase state aid following the income tax, we didn't get local tax relief. Yet you conclude your paper with the statement that "we expect districts to greet increased state aid with tax relief."

HEINS: The reason for that is simply because if the state had not increased its share, expenditures per student would have increased as much as they did anywhere.

HUBBARD: I will not believe that in terms of Illinois. It may be national but I believe a time study of Illinois would show a different picture.

HEINS: Well, I doubt that. It would certainly run counter to these results. You would have a hard time explaining how these results could occur if the phenomenon about which you are talking was widespread. If you want to say that Illinois is somehow different from all the other states, then indeed my analysis is not useful.

HUBBARD: Well, I can't go to the legislature and tell them this. They would laugh at me.

HEINS: I'm not saying that we are going to the legislature with this. While ultimately we may present aproposal to the legislature, it would not be this one. Our prime objective is equalization, as I understand it, not doubling state expenditures. This paper is submitted for additional information on which to base our judgments to the extent we think it is important as an indication of what is likely to happen to education expenditures in this state over time, if the state buys one program as opposed to another program.

HICKROD: Let me ask a question here about the definition of tax relief. Is it possible to come up with a different model that specifies and measures tax relief in a different way and then predict from that a series of reviews?

HEINS: Yes, but it would be very difficult. Your question implies an indentification of particular tax relief with particular grants and aid and suggests a time-series analysis which would be very difficult.

HUBBARD: Couldn't we go back in time and look at when the state started putting extra money into education and see if the tax increase in school districts changed significantly? I think that we would find some tax relief because if the state hadn't increased its contribution, local taxes would have increased. this is one definition of tax relief.

COMMENT: You could use that as a definition. I can think of several different operational definitions of tax relief, all of which could be plugged in as a model.

HUBBARD: I don't buy the model because I don't think you are talking about predicting whether or not there is going to be an increase or decrease in expenditures. That you are talking about is the amount of variance in expenditures from state to state. Tax relief is an entirely different question to which this model can not speak.

HEINS: No, that is not a different question. It is something we can speak to, although you have to view it with some skepticism. If we could assume that the essential political character and the general behavioral characteristics of the population are the same in these states, we would then be entitled to infer from this data what indeed would have happened to any state with a change in the behavior of the state government. If you have one state that increased its state aid to 80% and another which increased it to 20% and in each case the expenditures for student is the same, you have to answer the question, "Why is it that one state picked up all that increasing amount of the tab over the years and the other state didn't and yet their expenditures per student didn't go up?" The inference we are making from this kind of cross-section analysis is that if the 20% state had followed the path of the 80% state, expenditures per student in that state would not have gone up anymore than they did.

STRONG: To put this on a non-statistical level, is it safe to say that what we might be talking about is that the push was on for educational expenditures? Can we say the heat was on to force education to do some kind of moving during these years and that some states responded on the state level and others on the local level?

HEINS: That may be another way of putting it.

I see another thing in terms of Illinois. We are considering fundamental change. Changes in the past have been merely modifications of formula entries. The state's percentage gradually increased over a period of years. What we are trying to do is to get some insight into the question of what would happen if the state's share went from say 45 to 85 percent.

MC LURE: Let me raise a point. You did the cross-section of Illinois for only one year.

HEINS: Yes, 1969-1970.

MC LURE: There is no trend involved with all of this, no trend whatsoever. All you are getting here is the study of a variance among states.

HEINS: That's right.

MC CLURE: You have no grounds, then, on which to infer from that variance of what would happen over time.

HEINS: I do have grounds. I indicated that because it is a cross-section analysis and because you are trying to make inferences about what would happen in the future that you have to view it with some skepticism but you certainly have grounds on which to accept my findings.

MC LURE: If you would have taken 1966 data and compared it to 1967 and 1968 data, you might have had some grounds for your conclusions.

HEINS: On the contrary, you would have fewer grounds with that kind of study. The problems with correlation on longitudinal data are horrendous. There are ways to reduce the problems but any conclusions which you made would be at best very tentative.

MC LURE: You have got a fixed unit cost concept expenditure per pupil which does not account for student population changes. If you look at Alabama or Georgia or Mississippi where the expenditure level has not increased very much in 15 years relative to other states but where pupil population has increased greatly, increased state aid is picked up by the increased enrollment. In your analysis you have to assume that the student population is static.

HEINS: No, I don't have to assume that at all.

MC CLURE: If you assume that the expenditure level will not increase as the state increases its amount of aid, something has to give. Either the local money remains constant or increases slowly or the state aid increases are absorbed by increases in student population. So there are a number of reasons why I have great difficulty following your assumption of increased state aid.

COMMENT: I think we are going beyond what Jim is trying to show. His analysis is only a snapshot of this point in time. I think it gives us some information but it cannot be expected to answer all the questions which have been raised.

HUBBARD: I agree but I am concerned about accounting for the variance in school district size and this could be a difficult task. For instance, the average district size in Illinois is not accurate unless you leave out Chicago but you can't leave out Chicago because it is one quarter of the expenditure. We also have many small districts which are obscured by the larger city districts.

HEINS: This could be accounted for by simply increasing the number of variables or improving the character of the variables. If, in fact, you want to not have the average size of school district but rather a variable that would account for the variance in the size of school districts, you could do that. I doubt, however, from the results I have that it is going to make much difference.

HUBBARD: Another fascinating variable to put into this matter is the range from the lowest expenditure district to the highest in the state.

HEINS: That is included in the index of expenditure equality.

HUBBARD: You have a range from $300 to $1,000. How many districts are in each category?

HEINS: It is much better than the range. It is a measure of the distribution itself. While it doesn't pick up two isolated districts, it looks at the variation of all other districts in the state. It accounts for the fact that some districts might have high variance in expenditures and others much lower variance per student.

HUBBARD: But do you account for there being any difference between states that had wide variance and others with less variance?

HEINS: Yes, it is the comparison between the Q (index of expenditure equality) and the S variables (percentage of State aid). What you would expect to find is that where the state picks up the highest percentage of the tab, you also have the highest equality of expenditures between districts.

COMMENT: To me the most significant thing I saw when I read the paper was that the state which pays a larger percentage comes closer to meeting the requirements of Serrano. It appears to me then that the determinants of equalization are not the determinants of the level of expenditures.

HUBBARD: let me finish my point. I just cannot accept your statement, at least for Illinois, that increased state aid results in local tax relief. This may be true for a cross-section of the country but not for Illinois. One important reason for this is the strength of labor unions in this state. I think that this fact makes an important difference especially in relation to those states with 80% state funding.

HEINS: I agree that other factors must be considered. But I presume that any proposal for equalization will involve a substantial increase in the state aid. And, following Serrano, I believe it is our charge to thoroughly study all aspects of the equalization question.

HICKROD: I want to briefly summarize the reactions to Serrano in six states. This is certainly not a random sample of alternatives and the only one, to my knowledge, that has become law is in Minnesota. The rest are proposals. I think they are interesting since they portray several different ways of approaching the Serrano problem and they do illustrate the phenomenon of leveling up by placing more state funds into the poorer districts. Most proposals call for greater expenditure of state funds and in all cases some limitations have been placed on the ability of wealthier districts to use their local resources. That is, local leeway has been restricted. Most proposals illustrate a shift in the Kindergarten through 12th grade tax burden from the property tax to non-property taxes. I am struck by the fact that in many states school finance reform is so closely linked to general tax reform. It appears that when one recommends a change in school finance one also recommends general revenue reform. The two are intimately linked, at least in the terms of the politics of getting a bill passed. The best illustration of this is Governor Anderson's reforms in Minnesota which were primarily conditioned on a general tax reform and were accepted because of that general tax reform. It was a package deal presented to the legislature in both general tax reforms and a reform in the method of financing the schools.

HUBBARD: I have never discussed the point with Dr. Hickrod but I have become more and more aware of the fact, since I have worked the legislature for six or eight years, that there is really not going to be such total reform in education finance until the legislators can also go home with at least some shifting of how the money is raised. I think that it is a political fact.

HEINS: Incidentally, I was struck by this Minnesota reform. It doesn't appear that there is really going to be much change in the state contribution if you increase the foundation level from $404 to $600 and increase the qualifying rate from 20 to 30 mils in the first year and then in the second year go to a $750 foundation level with the 30 mil qualifying rate. It doesn't seem as equalizing as the present formula in Illinois.

HUBBARD: We're better off than a lot of states. Also, the challengers in Minnesota withdrew after this change rather than testing it out further.

HICKROD: As I understand it, there has been considerable restrictions placed on the wealthier districts in Minnesota.

HEINS: But that seems to be the law there and, if indeed it is the law, they are meeting the Serrano test with a system similar to Illinois.

HUBBARD: They will not find out whether they do or not because the people who challenge the system are satisfied with the modifications.

HEINS: In other words, we will have to wait and see if a new suit is filed or if the *Rodriquez* case now before the U.S. Supreme Court is upheld or reversed.

HICKROD: It's perfectly conceivable that if *Rodriquez* is not reversed someone will introduce another case in Minnesota. They have been pretty happy with the action in Minnesota so far.

HUBBARD: Dr. Hickrod just ran onto a fascinating piece of information in some research he was doing. He was looking at expenditures from the bottom quarter of students in this state and found that percentage wise total state money for all purposes declines in this quartile. Interestingly, East St. Louis is not in that bottom quartile and Chicago is above that 50% mark. This obviously says that the state's money doesn't go to the poorer districts.

HICKROD: What Professor Hubbard is talking about has come out of the 8 year longitudinal study we are running at ISU. What we have done is taken the percentage aid going to the lowest quartile of students in unit districts. The unit of analysis is the pupil not the district.

COMMENT: Chicago does not have any students in that quartile?

HUBBARD: Chicago is above 50%. I think that categorical aid explains this findings. Vocational and special educational aid has increased and even transportation. It's all state aid but I think the categoricals have gone above the bottom quartile. You don't receive nearly as much special ed. money per child in the fourth quartile as you do in the top quartile. I would expect to find a decline because a substantial amount of money is going to cities of 10,000 or more now but all but one or two of them are out of this bottom quartile.

HICKROD: It has declined a little more than 4% over this eight year span. The density factor would account for a lot of this because of the density aid received by richer districts.

One of the things we want to do on this is explore the affect of categorical aid versus general aid. All we have here is total state aid and obviously that is a good place to start but we need to find out if this effect is due to categorical distribution or to something else. The point that Professor Hubbard is making, I think, is a very good one. As we manipulate the formula to put more money into urban districts, we appear to be reducing equalization.

MC LURE: Are you talking about weighted pupils?

HICKROD: No, this is the proportion of total state aid going to the lowest quartile of pupils using the ADA figure.

MC LURE: If you don't have a weighted factor Chicago will be on the other side of that quartile. I think that if you're going to follow through with this you ought to use a weighted ADA.

COMMENT: Bill's not talking about the 1.25 weighting we use in the formula. He's talking about general weighting for such things as the higher cost incurred by large cities.

MC LURE: Yes, and if you put that money in there without a weighted pupil equivalent, you will get a distortion. The position of Chicago in the ranking ought to be determined by using a weighted figure which includes the density correction or you won't get a true position of Chicago.

HICKROD: Bear in mind that this is a longitudinal study, therefore all measurement must be the same through 1963 to 1971.

MC LURE: When you start talking about amount of money per pupil, you had better put in pupil weighting everytime you add money for density. That's all I'm saying. Otherwise you get a distortion.

HUBBARD: One of the things that is true, isn't it Bill, is that you can tell me what this is for Chicago but you can't for Pope County and Pope County has got some of those same kids so what you do is you have just distorted the other way.

HICKROD: I think the problem is that in the State of Illinois when you talk about education for poor pupils and poor people, Chicago obviously dominates, even though it is not in this number we are talking about. Thus, the fact that Chicago is above the 50% mark is not pessimistic in that it reflects the fact that more and more aid has been going into Chicago.

One thing I don't like about the data is that we have to use per pupil property evaluation as a measurement of wealth. However, there is not a darn thing I can do about it. It is impossible to get time series income data for Illinois between 1963 and 1971. This is a big limitation.

What we have done with this data is take the coefficient of variation as a measurement of the comparative variance to see what happened to that with the passage of time from 1965 forward. It appears to be reducing rather sharply, which I think again is probably a Serrano point of view. It is an optimistic finding that expenditures per pupil are becoming more alike within the State of Illinois. I really don't know how much more to say about that because it can be due to many reasons. It's not analytical in the sense of provided explanatory variables. It merely tells you what was occurring.

COMMENT: There is something interesting there in the elementary districts. On the upturn rate between 1970 and 1971. We need another year of data to see if that will continue.

HICKROD: You are beginning an inflection on that elementary curve.

HUBBARD: To put this along side of what Professor Heins said, I think that you need to look at two other things. First, the last fiscal year of local collections from 1965 have gone up about 1.6. Second, state aid has gone up during the same period of time. So what has been happening in the state is the "leveling up" of expenditure levels. I don't know any districts that have reduced expenditure level during this period. This really reflects a leveling up of expenditure levels and narrowing of variance and at the same time an increased percent of state aid increasing faster than the local.

HEINS: Incidentally, I would like to clear up the definition of the term, "leveling up". It is used in slightly different ways. What exactly do you mean by the term? What exactly is involved in the process of leveling up? Does it mean a reduction in the variance among districts and an increase in average expenditures?

HUBBARD: You can reduce the variance by doing nothing or by reducing the top expenditures. But I think leveling up means to raise the lowest expenditure towards the highest rather than to squeeze towards the middle.

STRONG: To put it simply, leveling up is when the poor folks close in on the rich folks.

HICKROD: Incidentally, we got some collaborating evidence on this. The University of Maryland did some studies on the reduction of variance across the United States in various schools. It didn't have a time series but two points in time, as I recall. The findings indicate that there was indeed a reduction in expenditure within the state with the passage of time.

HICKROD: Professor Burnham has a report on the status of Capital Assistance.

BURNHAM: This paper is really just a description of what we now have in the state in terms of capital financing. I want to say first that the Capital Assistance Sub-committee is split into three groups. One is trying to develop some ideas of capital needs statewide. We have had trouble getting data on the number of school houses available and the number of classrooms. The second group is working on standards for allocations and distribution. They are trying to develop a definition of what would be considered satisfactory or adequate, in terms of school facilities, that the state might use for allocating resources. The third group is working on alternative allocations and distribution schemes.

I want to mention that the 70-71 figures became available after the bulk of the paper had been written. I went back and plugged in some of the figures in the table but unfortunately a thorough editing job was done on the captions so they refer to information on a different period of time. You'll see that 70-71 figure in use, however.

At an earlier meeting, we were talking about a questionnaire that we intended to distribute to school districts in the state. We now plan to go out to a random sample of districts with questionnaires to pick up some of the same type of information on facilities. We've cut our sample about six ways now, but we're not completely satisfied with it. We had hoped to get information from private schools but I don't know about that now.

HICKROD: Any question on capital assistance; Let's move to the Revenue Sub-committee.

COHEN: The Revenue Sub-committee doesn't have too much to report but I can make a few comments. We have been relying to a very high degree on what the Governor's Task Force is going to come up with. We had a meeting yesterday with that group. They have added more staff. Yesterday, we got a few reports on some unusual sources of revenue such as real estate transfer tax and stock transaction tax. We also talked about a lottery. I think the feeling of that group was that we should forget all those sources of revenue because either they don't amount to much in terms of dollars or they present problems of public acceptance. The question of morality was raised in terms of the lottery. Personally, I wouldn't disgard the lottery too quickly. You are talking about $100,000,000 in terms of New Jersey lottery. I think you could expect that much in Illinois.

HUBBARD: School people nationally have kicked around the question of earmarked taxes. It seems to me that in the area of the lottery it would be reasonable to earmark it for education than let it go for general revenue. I don't think, however, that the income tax should be earmarked for education. It seems to me that there is a question of whether you ought to use education to get a very unpopular kind of tax put through. Of course, maybe this is also the case with the lottery. All I would say is that at some point somebody should look at the issue of whether or not it is to the benefit of education. Alabama earmarks the first half cent of the sales tax for education. We did that in Illinois too. It's still earmarked. It may not amount to anything but it is an excuse for putting the sales tax on. The schools were blamed for it.

HICKROD: One of the things I want to raise with Leo concerns the scope of his committee. To what degree will the committee be involving itself in things other than analysis? Will you present alternatives or just make a recommendation?

HUBBARD: There must be alternatives or else we put the State Superintendent in a terribly bad situation.

COHEN: I have no quarrel about that. I think my sensitivity would be getting involved too much in hardline political issues. Of course, with revenue it is difficult to avoid them.

COMMENT: As I hear the Governor and his major competitor talk these days, there may be no way around them.

HICKROD: I agree. I'll go back to the statement I made before, the only way that school finance reform passed in Minnesota was along with a major tax reform. Unless you talk major tax reform along with the allocations system, you might as well adjourn and go home because you're not going to have any practical consequence whatsoever.

COHEN: Well, I guess, but all that I was trying to say is that the lottery, of all these sources, seems to be probably the most productive in terms of dollars. I think we should keep the lottery as something we ought to talk about.

Just a few other comments. I find myself getting more pessimistic in terms of getting data. In December I had high hopes that we were going to find out more about our tax bases. We were going to know more about who pays the property tax in the State of Illinois. We were going to know more about the distribution of tax burdens in terms of what difference it makes to switch from a local property tax to a statewide - the difference between a state income tax and the local property tax - the difference between a larger state income tax and a statewide property tax. I guess I am getting more and more pessimistic that we are going to have those data. I don't feel we are going to have that much more data from all the resources that the Budget Bureau has. At any rate, I hope to come up with a few alternative sources even though we might not have the definitive nth degree figures worked out.

HICKROD: Is there any possibility of getting breakdowns by different types of property evaluation in the various school districts? I still think that one alternative we want to think about is a statewide property tax only on commercial and business property.

COHEN: I have a graduate student of mine working on this and I will have something on this. I'm getting cooperation from Cook County which will give us a pretty healthy portion of the state. They are going to give me the breakdown on all of Cook County for some 50 different classes of property. I also asked them what the true rate of assessment is. If we can get a number of the larger cities other than those in Cook County, we will have the best estimate I can think of relative to industrial and commercial property.

HUBBARD: I keep hearing a note of pessimism based on political concerns. We have never talked about taxes and their increases here probably because of this but we should look at the facts rather than the rhetoric. I remember the rhetoric four years ago which is the same this year but we still have an income tax. What will be happening next year will be viewed in a different light than any rhetoric that may fall on our ears now. So I think we'd best move as a committee toward whatever we can do with revenue. I hope we can come up with some alternatives which would give the politicians the opportunity to choose between different programs.

COHEN: Incidentally, we are expecting a report in a couple of weeks about the spread of the local income tax. It will include the possibility of a local surtax on the income tax. It won't, however, include an income tax breakdown by school districts. The emphasis in this study will be about four or five possibilities of a local income tax with revenue estimates only on large cities and counties. It will also at the question of administrative feasibility of doing it on school districts. That is to say, there will be no revenue estimates on what an income tax might bring for a school district. We will have county and large city estimates, however, so that will give us something to work with.

HUBBARD: A local surtax on income taxes would present one whale of an equalization problem because the distribution of income probably has a greater variance than property evaluation. So it wouldn't get away from Serrano. On the contrary, we would just get in deeper with Serrano on the idea of using income.

COMMENT: What combination would you use?

HICKROD: Well, the State of Kansas has a combination of income and property taxes that they used for equalization purposes. It may be perfectly possible to operate an equalization formula using the income side. There was a recommendation by Professor Benson in a small publication turned out by Phi Delta Kappa just a few months ago relative to using surtax on the income tax. I think that he was talking about it in local terms.

HUBBARD: I would like to develop a paper to show the fallacy of the local income tax. I think that the data would lead any reasonable person to conclude that you cannot equalize on the basis of a local income tax.

MC LURE: I merely have a progress report on the Alternatives Sub-committee. You have a memorandum dated May 22 which laid out the alternatives on which we are planning to obtain simulations. We will use the cost differential norms of the National Educational Finance Project to get a different kind of weighted pupil unit instead of the WADA type of unit. There are too many data shortcomings for the more rigorous job of building our own norms in Illinois. We are asking the people in the State Office to fill out these blanks (See Method of Computing Number of Weighted Pupil Instructional Units) for every district in the state and apply the norms to the pupil counts to get a single figure for each district. The second thing to be done is to set up some computer programs for these weightings. Once that is done, I am going to prepare something for you to look at in terms of these alternatives.

HICKROD: We have one model that starts with a very large block grant and does provide equalization above it.

MC LURE: Yes, we can show you an equivalent of that. I think that the designs we are doing now shows, the equivalent of what they talked about in New Jersey. That is, going to a state property tax at the dollar rate.

HICKROD: There has been some interest among the Governor's group in the New Jersey Tax Policy Committee Report. The allocations system that they came up with is basically a block grant with equalization operating by a percentage equalization formula above it.

MC LURE: We will have that and a couple of alternatives in which we equalize above a limit of local property tax. If the state wants to take over the property tax, you would have the equivalent of it. The thing is New Jersey is only a proposal. It is not in the law yet.

HICKROD: Yes, I know that it is only a proposal, one of many which has been put forward in New Jersey. I might add that I think that the California Senate Select Committee is going to look a good deal like recommendations, either the New Jersey recommendation or the one I've listed from Professor Rossmiller from the University of Wisconsin. The form of it is going to be in that mode.

Let's take our final item. Dr. Strong has some questions he would like to propose on procedures and timelines.

STRONG: My main theme is trying to mesh the non-scientific, value level discussion with the research. I don't want to be premature but I would like to determine when we will get at the question of values. I understand that we have been waiting for but I think that we should discuss what our goals are and what our directions should be. We should determine what areas we agree on so that we don't spend more time on alternatives than we need. If there is consensus on some things, I think we ought to find that out rather than getting too far into the other thing.

We talked this morning about political rhetoric. I'm talking about governmental and political realities that have to be taken under consideration, at least considering the practical size of the windmills that we may tilt. We must decide whether or not we want to propose some far out alternatives or only minor changes in the present system. Will we make only one or two proposals or several? I don't know how important it is for this Committee to decide that its recommendations need to be practicable in terms of marketing them. I would like to get into that so we will know where we are going. I think we war talking marketing as well as research. I think we will have to have a very healthy discussion on minimum factors. We have to talk about categoricals versus weighting and so on. We should get some agreement on what we think are minimum elements for consideration in any formula. We may have disagreement and that may cause us to falter but I'm anxious to get to that.

I've been concerned about the question of revenue, about how we apply that research. I think it is terribly important that we understand what the implications are. We must decide the degree to which they will be the controlling or major factors. I think that we should have a free-swinging session in which everyone puts his philosophical position out in the open. I think we need the same reaction to capital financing. Should capital financing be a separate issue or do we want to press for it as an integral part of the state aid formula? I'm coming back to the point that some of us with less research skills can provide better input if our efforts are brought to bear in terms of reaction and analysis and understanding of the impact on education of the political move than they can in other areas.

HEINS: I guess I agree Don. I think it would be worthwhile to spend some time just simply laying our own notions on the table about what it is or what should be done about changing the structure of education. It's time for somebody to say, I suppose, "I'm for full-state funding" or "I'm for that" and for somebody else to come a. ng and say "No, I'm opposed to that and I think the program should look something like this." We ought to do that just to see if there isn't a consensus or to see, at least, the variation among our attitudes.

COMMENT: If we should happen, and I think we will not, to have real consensus on somethink wouldn't that be fine. We could really devote our energy to that topic.

HICKROD: In New York, the Fleishman Commission came out with one single recommendation. They agreed upon a single method of financing education for New York. When a major study was done for Michigan, they laid out several alternative methods. You can draw a contrast between an approach made by the Fleishman Commission of New York which arrived at a single conclusion and the approach made by Professor Thomas and his associates in Michigan which laid out essentially four or five major alternatives. The Michigan report left it in terms of discussions, pro and con, with those alternatives. Maybe one is logically prior to the other but you have to lay out the alternatives to find out whether there is an agreement. If there is a lack of agreement, I think we will probably end up laying out three or four alternatives. This is as far as we will go. Minority reports will certainly be allowed. I'd insist on it.

HUBBARD: No committee should decide that it has all the wisdom and decide that one solution is the only solution. The committee may decide that it wants one over the others but it ought to point out the strengths and weaknesses of those. It might merely point out two or three ways to arrive at the same goal, equal educational opportunity, but not just one.

HICKROD: I think this represents a difference between the Governor's groups, as presently constituted, and this group. The Governor's group relies upon a professional staff which will produce a professional staff report which will essentially be hammered away at by another committee. This group is more composed of professionals in the field and therefore the nature of the reports will be different, due to the nature of the people on it.

HUBBARD: It seems to me that we ought to have the data before we discuss the philosophical things. We should know the practical use of a formula before we can have that type of discussion.

COMMENT: We already have a wide range of information but in order to really dig in we have got to have some of these other things out on the table first.

HUBBARD: I don't think we can talk about the theoretical issues until we have data. We can just talk around and you can imagine what the words say but you can't illustrate theoretical issues without data. It isn't just a matter of getting down to something practical. The point is that you have to have the information in your hands to talk theory. If we get the data, we can lay out enough alternatives. Of course, in all probability, it's going to be more than picking alternatives. It is also going to be picking goals.

ESLICK: We might present as many alternatives as are feasible to explore and try to detail the advantages that Ben pointed out because I originally envisioned this committee as being one that would provide information not only for Office decision-making but for all those other groups that we met with at the inception of this Advisory Committee. That is, to inform the Superintendents Association, the Chamber of Commerce and other educational and non-educational organizations. I would hope that we would look at as many of these things as fully as we can so that we can help provide the informational base on which many of the interest groups will be making their decisions. One other thing that relates to the question of having adequate information is a contract that has been entered into by the Budget Bureau and the Urban Institute. It contains the provisions that this Committee will have access to any information which is developed. It will help us to have additional information derived from a somewhat objective source from outside the State.

One of the more fragmented things that has been kicked around has to do with the very real possibility that the Federal Government will enact, this year, some form of revenue sharing. It is my understanding from people in the Budget Bureau, from what I have read in the newspapers, and from what I hear from Washington that the Illinois state government will receive about $100,000,000 of unrestricted revenue. The Governor has mentioned the possibility of 50% or $50,000,000 of that $100,000,000 going to education. It is possible that this $100,000,000 would be available during Fiscal 1973. I do think there is a commitment within this administration to provide a substantial portion of it to education. I hope that the kind of recommendations that we think about would include multistage programs that would allow us to move from where we are today ultimately to some more efficient, effective and equitable system. I hate to see us lose an opportunity to take advantage of revenue sharing as possibly the first step in that direction. This relates, possibly, to a fall session of the General Assembly which would implement this particular step.

HUBBARD: Do you really believe that we will have one before the election?

ESLICK: I think we will have one after the election. If the thing were agreed to, that we could do a project, then I think it would be worthwhile to do a little bit of thinking about it. One of the thoughts I had is to look at the possibility of dealing with some of the special funds. Pick out one or two of them, as you did a couple of years ago with the Transportation Fund, and think about what we could do with $50,000,000 or $100,000,000. Pick out one or two of them and develop an equalization formula and maybe combine some funds as well at the same time and use the money that way. That's just one thought. I don't know whether it is possible or practical but we could look at it.

HUBBARD: You could use just the amount of money you said, if you weighted Title I students at two instead of one. At any rate, you suggest the principal that education should get a prorated share of the unallocated money in proportion to state and local money raised for education and in relation to state and local money raised for non-educational services from all sources.

ESLICK: Yes, I suggest that we think about it if we were to get $50,000,000 to $100,000,000.

COMMENT: I think you have a very good thought there.

ESLICK: Is anyone still talking about the possibility of taking some of that municipal income tax rebate?

COMMENT: The mayors and the county boards and some pretty substantial followers are really bucking that. The alternative is to get counties and municipalities to share some of their income tax revenue voluntarily.

HUBBARD: The only way you might do it is to pass it the day they get the $200,000,000. You will never get it done voluntarily. The legislature will have to say they have more than we were sending them. They can increase their services without this. Only if they are in desperate shape and they have a choice between increasing taxes and taking that back and letting the Federal Government pick it up would you have a political chance.

ESLICK: That's not quite true, because in any county this will change the pressure because here's a perfectly possible area for school districts to raise their tax rates without changing the overall tax rates within the municipalities. I'm sure we'll find some of that happening but then you can't know or predict where or when it is going to happen. You certainly can't say anything about the equalizing aspects of it but I'm sure some of that will occur. How much is another matter?

STRONG: Do I detect a change in the charge of the committee? The original charge to the committee was to deal with equal access to educational opportunity. The Superintendent asked that he be advised as to the development of an effective means for achieving this equal aspect in light of *Serrano* and related decisions The point which has just been made is that, perhaps, this Committee has a different charge and that it is, in fact, a resource committee designed to provide technical research data to be input for the Office of the Superintendent for its own decisions, independent of the Committee, and for the Superintendent for its own decisions, independent of the Committee, and for the Governor's Task Force and other educational groups. That is a perfectly legitimate position but it is very different from what we started out with and clearly very different from the point I was expressing earlier.

ESLICK: I believe that this Committee must do both at the same time.

HICKROD: I believe that the intent of the Occasional Papers was to meet the first and I suppose that the final report speaks for the latter charge. The final report is a report to the Superintendent, although it will undoubtedly be shared with others but it is a report to him and, I think, with specific recommendations.

IEA SCHOOL FINANCE PROPOSAL

William P. Cote
Director of Research

A Report to the Superintendent's
Advisory Committee on School Finance

(August 3, 1972)

IEA SCHOOL FINANCE PROPOSAL

PART I

Two major problems have plagued financing of schools for many years. First, the money available per pupil to educate children in Illinois is *too low*, especially in many districts with low assessed valuation. Second, the tax system is unfair--with a disproportionate amount coming from regressive property taxes.

Reliance on local property taxes is unfair to the taxpayer because the value of property owned is not a reasonable measure of ability to pay. Also, reliance on local property taxes coupled with a low state guarantee level is unfair to children because it creates wide variations in money available per child. In unit districts the assessed value per child ranges from less than $3,500 to more than $103,500; for elementary from less than $5,000 to more than $355,000; for high school from less than $25,000 to more than $230,000. A $3 tax rate would produce $105 per pupil in the poorest unit and $3,105 in the wealthiest.

The IEA operating cost formula attempts to solve these problems by:

1) Establishing the guarantee level per weighted pupil at an adequate level--$1,350. This figure is somewhat higher than the projected average expenditure in Illinois. We believe this is justified because average expenditures are depressed by a substantial number of districts that under the present finance system simply cannot raise enough money to do an adequate job--some cannot even comply with all of the legal provisions such as mandatory special education.

2) Weighting pupils according to need. We propose weighting pupils for state aid purposes as follows:

Pre-school (ages 3-5) - Families with income below $4,000 - 1.30

Grade K — 3	1.40
Grades 4 — 6	1.00
Grades 7 — 9	1.20
Grades 10 — 12	1.40
Mentally handicapped (EMH and TMH)	1.90
Speech handicapped	1.20
Learning disabilities	2.40
Emotionally handicapped	2.80
Physically handicapped	3.25
Bi-lingual Compensatory	2.00
Vocational - technical	1.80

These are the weightings proposed in the National Educational Finance Project with one exception. We propose weighting pupils in kindergarten and the first three grades because pre-school and early school education is critical in educational growth. Failure to adequately meet children's needs at this level likely produces problems both more difficult and more expensive to resolve at a later time. Weighting of pupils with special educational needs would supplant the present special education reimbursement program.

3) Using membership in counting pupils. The rationale for the use of average daily membership rather than average daily attendance has been stated so often in recent years that it will be omitted in this report to avoid redundancy.

4) Limiting local property tax rates. The whole concept of equalization implies limitations to narrow the gap between low and high resource districts. Further, as a matter of tax reform, the major source of school revenue should be shifted to the state level where more equitable taxes such as the income tax may be used in lieu of local property taxes.

5) Providing a local tax option to exceed the tax guarantee level by as much as 20%. This means that local districts could exceed the proposed guarantee level of $1,350 by 20% or $270 per weighted pupil, subject to local referendum. This is considered adequate for enrichment, experimentation and possible differences in cost due to geographical location.

6) Guaranteeing that higher expenditure per pupil districts will be permitted reasonable increases in expenditure per weighted pupil. The very small percentage of school districts whose expenditures exceed the proposed level should be permitted to maintain the current level of expenditure plus reasonable increases until such time as the guarantee level equals or exceeds their expenditures.

7) Eliminating the cost of bond repayment, school construction and other major capital outlays from operating revenues. Both operating and capital outlay expenditures are made from several of the multiplicity of funds under the present system. Borrowing among and between funds, deficit transfers from one fund to another and shifting of expenditures from one fund to another promote unnecessary complexity and confusion. We propose that all operating costs be paid from a single operating fund and that all nonoperating costs be paid from other funds. State Aid for any district would equal $1,350 x Aid Ratio x Weighted Average Daily Membership.

The aid ratio is:

$$1 - \frac{\text{Assessed value per pupil in weighted average daily membership}}{\$45{,}000\text{ (unit)};\ \$67{,}500\text{ (elementary)};\ \$135{,}000\text{ (secondary)}}$$

Shifting from an outmoded, inadequate local property tax-based school finance system to an adequate, state tax-based system will require a massive increase in state appropriations for public elementary and secondary school education. In spite of limitations in available data we believe that our cost projections are reasonably accurate. Based upon 1970 assessed valuations and 1970-71 pupil data the projected cost for this program is $2,250,000,000 -- an increase of approximately $1,200,000,000.

Although this would require a doubling of the income tax rate, it would relieve the increasing burden placed on the unfair and unpopular property tax.

Implementation of the operating cost formula could be made over some agreed time span such as four years. Several factors can be adjusted or phased in over such a time period.

PART II

BASIC FINANCE AND REVENUE PRINCIPLES

1) Educational opportunities should be substantially equal, but districts should have limited tax leeway left for enrichment and experimentation.

2) Necessary cost differentials should be included in the plan to meet individual needs created by variables.

3) All operating costs including special education, vocational education and transportation should be included in the plan and not be treated as add-ons.

4) School taxes should be relatively progressive with a high percentage of revenue coming from state and federal sources.

5) So-called "incentive" programs which allocate state and federal funds on the basis of locally raised revenue should be avoided as they tend to disequalize educational opportunities.

6) The level of funding should be determined by a professional estimate of the cost of a quality educational program rather than by the average of current practice.

7) Educational output per dollar should be maximized through efficient district organization and efficient schools within districts. (There should be no financial differential based upon type of district organization.)

8) Federal aid should serve two functions: the reduction of reliance on regressive taxes and the equalization of educational opportunities among the states.

9) Capital outlay expenditures are an integral part of the cost of education and should be funded by means of a program separate from operating cost funding.

10) Every district should be guaranteed the spending level of the last school year prior to the introduction of the new formula plus an increment.

11) Special grants should be available from the state office of education for research, experimentation and innovative projects.

PART III

GUIDELINES FOR FORMULA DEVELOPMENT

1) Combine education, building, transportation, municipal retirement, textbook and playground rates and funds to form the "Operating Fund."

2) Eliminate all capital outlay expenditures from this new "Operating Fund."

3) Continue Bond and Interest, Rent, Site and Construction, Capital Improvement and Working Cash Funds.

4) Abolish fire and safety and liability tax rates.

5) Establish guarantee level at $1350.

6) Establish necessary tax rates for the program.

7) Permit voter approval of a limited leeway rate not to exceed 20% of the guarantee level. (Those with current rates in excess of the 20% would have rates frozen and reduced proportionately to 20% as the guarantee level became high enough.)

8) Automatic increase should be built in (rising AV per pupil, "cost of living," fixed percentage, % based on average operating cost).

9) Use the following weighting:

1.30 - pre-school ages 3-5 (income under $4000)
1.40 - kindergarten - grade 3
1.00 - grades 4-6
1.20 - grades 7-9
1.40 - grades 10-12
2.00 - compensatory education
1.80 - Vocational - technical
1.20 - Speech handicapped
1.90 - Mentally handicapped (EMH - TMH)
2.40 - Learning Disabilities
2.80 - Emotionally handicapped
3.25 - Physically handicapped

10) Base cost on average daily membership rather than average daily attendance.

11) Guarantee no loss in revenue to any district and allow an increment equal to 10% of the guaranteed level the first year.

12) Authorize *full* participation; not limited by local voter approval.

OPERATING COST FORMULA

The now well renowned Serrano v. Priest decision and other related court decisions have focused attention upon some of the shortcomings of the present method of financing public education. Many local school districts continue to struggle with great financial problems in spite of substantial increases in state support in recent years.

In previous reports, the Association has indicated that the present distribution formula suffers from the following inadequacies: 1) excessive reliance on property taxation, 2) losses in property tax revenue through losses in assessed valuation caused by the elimination of certain property from assessment, 3) equalizing at a dollar level considerably below *average* practice, and 4) failure to include many of the essential operating costs in the state support program. The effect of these inadequacies becomes apparent when the financial operation of diverse school districts are examined.

The most damaging effect, and one which the courts have recently attacked, is a hidden built-in guarantee that some districts will be able to spend three or four times as much as some other districts. In fact, districts with extremely low assessed valuation per pupil cannot match the average expenditure, not to mention the higher expenditures, even with much higher tax rates. Whether or not certain high valuation property is located in the district is the single most important factor in determining the funds available per child under the present system of financing. The Association recommends that we work toward a distribution formula which will guarantee substantially equal financial resources per child secured through a tax program that is relatively progressive.

The IEA endorses the concept of state support based upon all operating costs as a more effective method of achieving equalization which would make possible substantial parity of educational opportunities for all children, irrespective of place of residence. Further, the Association urges that the guarantee level be established somewhat above projected average operating costs since averages of current and projected practice are less than desirable. This is true because averages by their very nature include cost figures from districts which are providing marginal and substandard educational programs. A specific guarantee level will be proposed at a later date.

The Association also urges the use of weighting for higher cost programs as a superior method of distributing funds when compared with the incentive grant type programs. For example, districts with very low assessed valuation per pupil cannot afford to comply with mandatory special education legislation under a partial reimbursement of the additional cost type program because the local district simply cannot raise the necessary funds to supplement the state's contribution for the program.

PART IV

GUIDELINES FOR REVENUE REFORM

1. Eliminate personal property taxes.
2. Base state revenue on income tax.
3. Limit property tax rates.
4. Use federal funds to offset local - not state - revenue production.
5. Strengthen state power to reassess and to equalize at the assessing level, such as township.

IMPROVED PROPERTY TAX COLLECTION AND DISTRIBUTION

In addition to the appropriations for schools made by the General Assembly, about 60% of all property taxes extended are for schools. Schools are more likely to be adequately financed if there is a state and local revenue system that is efficient and gives equitable treatment to taxpayers. Many citizens who are unfairly treated in taxation, such as older property holders on low fixed incomes, show their displeasure and plight by voting against school referenda. The percentage of successful school referenda has decreased during each of the past four years.

When property taxes for schools are reduced, the Association believes that income taxes should be used to replace losses in funds. Implementation of the previously described formula would help resolve this problem. Property taxes should remain for school purposes until there is a suitable substitute which will allow taxation for school purposes on persons residing within the district. Much of the progress in education has been initiated by school districts which did something more than the ordinary; such innovative activities usually require additional funds. However, it is not necessary to place the major burden of financial support of schools upon the local property tax to permit the exercise of these options. The Association believes that each district should have the option, with voter approval, of raising a limited dollar amount per pupil for such purposes. In addition, the Association believes that special grants should be available from the State Office of Education for research, experimentation and innovative projects.

The major portion of public elementary and secondary school financing, state and local, is based on assessed valuation per pupil. Fair treatment of taxpayers requires equal assessments for schools and other purposes. There is ample evidence in county studies and state property tax division reports to prove great disparity between assessed and bonified sales value in every county in the state. If assessed valuation per pupil is to continue as a significant factor in measuring school finance resources, these disparities should be removed. Under the present system substantially unequal assessments mean that millions of dollars each year are going to the wrong places. The Association has continuously supported state equalization by taxing unit rather than by counties and the right of a state agency to assess property where poorly done by local assessors and to charge the local unit for such service. Errors in local assessments cannot be corrected by multiplication factors. The assessments need to be properly made in the first place.

APPENDIX A

OPERATING COST FORMULA
Explanation and Projections

The IEA proposed operating cost formula has involved four factors, namely: 1) guarantee level, 2) aid ratio, 3) participation rate, and 4) weighted pupils. It may be represented as follows:

State Aid = Guarantee level x Aid Ratio x Participation Rate x Weighted pupils

The Association recommends establishment of the guarantee level at $1350 and weighting pupils in average daily membership as indicated in the *Guidelines for Formula Development*. The participation rate can be eliminated since full participation is envisioned for all districts.

The aid ratio is computed for the three different district types as follows:

$$\text{Unit: } \left(1 - \frac{\text{assessed value per weighted pupil}}{45{,}000}\right)$$

$$\text{Elementary: } \left(1 - \frac{\text{assessed value per weighted pupil}}{67{,}500}\right)$$

$$\text{Secondary: } \left(1 - \frac{\text{assessed value per weighted pupil}}{135{,}000}\right)$$

Tax rates for operating purposes would be set at $3.00, $2.00, and $1.00 for unit, elementary, and secondary districts, respectively. (Please note that the rates applied to the assessed values in the formula would produce $1350 in each case.)

The following three tables show the essential information for districts under the two types of organization (unit and dual) under varying conditions of assessed valuation. For the example it was assumed that 1000 pupils (700 in grades K-8 and 300 in grades 9-12) are located in the territory. This closely matches the actual distribution in the state. Distribution of pupils by grade level was assumed to be:

Grades K-6	520	
Grades 7-9	260	
Grades 10-12	220	
Weighting produces		
Grades K-6	520	
Grades 7-9	312	
Grades 10-12	208	
Total weighted pupils		1140

****

Unit District

Assessed Value of Territory	Assessed Value Per Weighted Pupil	(1-Column 2) (45,000)	State Aid Per Weighted Pupil	Total State Aid
$60,000,000	$52,632	.0000	$ 0	$ 0
50,000,000	43,860	.0253	34.15	38,937
40,000,000	35,088	.2203	297.40	339,036
30,000,000	26,316	.4152	560.52	638,993
20,000,000	17,544	.6101	823.64	938,950
10,000,000	8,772	.8051	1,086.88	1,239,043
5,000,000	4,386	.9025	1,218.38	1,388,953

In projecting the number of weighted pupils in elementary and secondary schools it was necessary to assume the proportion found in grades 7, 8, and 9. It was assumed that 80 of the 260 pupils were in grade 9 and 180 were in grades 7 and 8, and with a 1.2 weighting. Increasing the proportion at the ninth grade level would increase the state aid for the high school district and reduce the elementary claim.

On this basis, 736 of the weighted pupils would be in the elementary district and 404 in the secondary district.

Elementary District

Assessed Value of Territory	Assessed Value Per Weighted Pupil	(1-Column 2) (67,500)	State Aid Per Weighted Pupil	Total State Aid
$60,000,000	$81,522	.0000	$ 0	$ 0
50,000,000	67,934	.0000	0	0
40,000,000	54,347	.1948	263.06	193,612
30,000,000	40,761	.3961	534.78	393,598
20,000,000	27,174	.5974	806.52	593,599
10,000,000	13,586	.7987	1,078.28	793,614
5,000,000	6.793	.8993	1,214.14	893,607

Secondary District

Assessed Value of Territory	Assessed Value Per Weighted Pupil	(1-Column 2) (135,000)	State Aid Per Weighted Pupil	Total State Aid
$60,000,000	$148,514	.0000	$ 0	$ 0
50,000,000	123,762	.0832	112.38	45,401
40,000,000	99,010	.2666	359.90	145,399
30,000,000	74,257	.4499	607.43	245,402
20,000,000	49,505	.6332	854.95	345,399
10,000,000	24,752	.8166	1,102.48	445,402
5,000,000	12,376	.9083	1,226.24	495,400

Assessed Value of Territory	Elementary Claim	Secondary Claim	Combined Elem. and Sec. Claim	Unit Claim
$60,000,000	$ 0	$ 0	$ 0	$ 0
50,000,000	0	45,401	45,401	38,937
40,000,000	193,612	145,399	339,011	339,036
30,000,000	393,598	245,402	639,000	638,993
20,000,000	593,599	345,399	938,998	938,950
10,000,000	793,614	445,402	1,239,016	1,239,043
5,000,000	893,607	495,400	1,389,007	1,388,953

STATEMENT OF
TOTAL TAX REVENUE AND STATE AID AVAILABLE
USING $1350 OPERATING COST FORMULA

Assessed Value of Territory	District Type	Taxes	State Aid	Total
$ 5,000,000	Unit	$ 150,000	$1,388,953	$1,538,953
	Elem.	100,000	893,607	993,607
	Sec.	50,000	495,400	545,400
10,000,000	Unit	300,000	1,239,043	1,539,043
	Elem.	200,000	793,614	993,614
	Sec.	100,000	445,402	545,402
20,000,000	Unit	600,000	938,950	1,538,993
	Elem.	400,000	593,599	993,599
	Sec.	200,000	345,399	545,399
30,000,000	Unit	900,000	638,993	1,538,993
	Elem.	600,000	393,598	993,598
	Sec.	300,000	245,402	545,402
40,000,000	Unit	1,200,000	339,036	1,539,036
	Elem.	800,000	193,612	993,612
	Sec.	400,000	145,399	545,399
50,000,000	Unit	1,500,000	38,937	1,538,937
	Elem.	1,000,000	0	1,000,000
	Sec.	500,000	45,401	545,401
60,000,000	Unit	1,800,000	0	1,800,000
	Elem.	1,200,000	0	1,200,000
	Sec.	600,000	0	600,000

Cost Projections

The cost projections included here are for discussion purposes only as the method of estimating has ignored several significant factors.

UNIT DISTRICTS

1,211,325	ADA
1,380,910	WADA (Assume 1.14 weighting)
$28,733,781,839	AV
$862,013,455	AV x .03
$1,864,228,500	(1,380,910 x 1350)
$1,002,215,045	STATE

ELEMENTARY DISTRICTS

607,676	ADA
645,899	WADA (Assume 1.0629 weighting)
$17,674,132,921	AV
$353,482,658	AV x .02
$871,963,650	(WADA x 1350)
$518,480,992	STATE

SECONDARY DISTRICTS

257,934	ADA
348,210	WADA (Assume 1.35 weighting)
$17,674,132,921	AV
$176,741,329	AV x .01
$470,084,715	(WADA x 1350)
$293,343,386	STATE

STATE TOTAL

$1,002,215,045	Unit
518,480,992	Elementary
293,343,386	Secondary
$1,814,039,423	Total

COMPARISON OF OPERATING FORMULA AND CURRENT $520 + 12% ADD–ON
(No density or impaction included)

Based upon 1000 pupils

Assessed Value of Territory	Current Formula			Operating Formula		
	Elem.	Sec.	Unit	Elem.	Sec.	Unit
$60,000,000	$ 50,464	$ 20,160	$ 95,877	$ 0	$ 0	$ 0
50,000,000	60,559	20,160	115,050	0	45,401	38,937
40,000,000	75,296	21,722	142,240	193,612	145,399	339,036
30,000,000	115,360	28,965	263,200	393,598	245,402	638,993
20,000,000	212,802	58,464	384,160	593,599	345,399	938,950
10,000,000	310,244	120,960	505,120	793,614	445,402	1,239,043
5,000,000	358,965	169,680	565,600	893,607	495,400	1,388,953

August 11, 1972

To: Superintendents Advisory Committee

From: A. J. Heins

Subject: A Proposed Recommendation to the Superintendent

I propose that we recommend to the Superintendent of Public Instruction that the system of educational finance in the State of Illinois be modified as follows:

(1) The General State Aid Formula be changed to incorporate a $1000 foundation level with qualifying rates of 3% for unit districts and 1-1/2% for elementary and secondary districts, based on WADA, the weighting system remaining as before. If accepted, this proposal would change state foundation aid to the districts as indicated in the attached table.

(2) All funds, save the Bond and Interest Fund and the Site and Construction Fund shall be consolidated into a General Fund, and the tax rate limits on the General Fund set at 3.00% for Elementary and Secondary Districts and 5.25% for Unit Districts. It should be written into the law that present tax rate authorizations established for the various present funds by referenda in the various districts be additive to establish the rate to be considered by the districts as established by referendum.

(3) The system of categorical grants, including impaction aid, shall remain the same.

(4) The density bonus shall continue. However, if we can develop a feasible method of accomplishing the avowed objectives of the bonus by a new method of establishing WADA, that should be seriously considered.

(5) The new foundation allocation shall be phased-in over a three year period as follows: In the first year of the program, a district having a larger grant-in-aid per WADA under the new program, shall receive one-third of the added money; in the second year, two-thirds; and the third year the full foundation grant under the new program. For districts that will experience reductions in state aid under the new program, the districts shall receive the newly established foundation aid plus two-thirds of the lost monies in the first year; one-third in the second year; and only the foundation aid reflected in this proposal in the third year. For example, if a district would have qualified for a grant of $463 under the old program, and under the new program qualifies for $700 per WADA, it shall receive $463 plus one-third of $700 minus $463, or $79, for a total of $542 per WADA in the first year; and (assuming the $463 and $700 calculations stay the same) $621 in the second year; and the full $700 in the third year. For a district that qualifies for $75 per WADA under the present program and zero under the new program, aid per WADA would be $50 in the first year, $25 in the second year, and zero in the third.

State Foundation Aid

Unit Districts

Property Value /WADA	Present* 520 - 1.08% (+12%) Aid/WADA	Proposed 1000 - 3% Aid/WADA
$100,000	$ 54	$ 0
80,000	62	0
60,000	83	0
50,000	99	0
40,000	124	0
30,000	220	100
20,000	340	400
10,000	462	700
5,000	522	850

Elementary and Secondary Districts

Property Value /WADA	Present* 520 - .87% (+12%) Aid/WADA	Proposed 1000 - 1½% Aid/WADA
$100,000	$ 54	$ 0
80,000	72	0
60,000	103	100
50,000	124	250
40,000	193	400
30,000	290	550
20,000	388	700
10,000	485	850
5,000	534	925

*Reflects alternative method of computation and flat grant of $48.

DISPARITIES AMONG SCHOOL DISTRICTS IN ILLINOIS AND STATE FISCAL POLICY

G. Alan Hickrod and Ramesh Chaudhari*

Should the Courts move in the direction of applying a "reasonable basis" test to state school finance systems, and there has been some recent evidence to indicate that this might occur (1), it is likely that there will also be a demand for longitudinal fiscal studies. This could arise because the Courts may wish to inquire what the "track record" of the Legislative and Executive branches has been relative to such public policy goals as: (a) reducing disparities among school districts, and (b) encouraging the equalization of educational opportunity. A state which can demonstrate that it has moved with "all deliberate speed" through the years toward these goals might well receive different treatment at the hands of the Courts than a state which can show little or no progress toward the same goals. Such longitudinal studies should also contribute to rational fiscal policy as it is formulated by the Executive and Legislative branches irrespective of what position the Courts finally take on school finance matters. Those who do not know the past are not only condemned to repeat it, but also are probably condemned to be prisoners of trends they may not fully comprehend.

The brief paper presented here offers some analysis on these longitudinal matters. A more extensive analysis will be available at a later point in time (2). The need for school finance information, however, appears to be so great that we have sacrificed some academic protocol in order to get at least a small amount of this kind of evidence before the Committee. For example, there is an extensive body of research on all kinds of fiscal disparities among school districts that should be keyed to our results, but that exercise must await another time and place (3). Two types of evidence are presented for consideration here. The first relates to the simple question of whether school districts have, or have not, become more alike in Illinois with the passage of time. Secondly, we turn to the much more complicated question of whether the state fiscal policy has, or has not, contributed to the equalization of educational opportunity. We would caution that both of these questions, and especially the latter, are quite complicated and will require far more time and effort than has been spent upon them to date. All that can be provided at this juncture are some tentative answers and some leads as to what are the major problems in this area of research activity.

Simple Disparity

The results of the simple disparity analysis are presented in figures one through four. Disparity was measured by the coefficient of variation; that is, the standard deviation divided by the mean and multiplied by 100. The downward sloping line in the graphs indicates that the value of the coefficient has been falling and that school districts in Illinois are becoming more alike with the passage of time. In figure one we can see that this is true for current operating expenditures per pupil especially for the period 1965 through 1971. In an area that sorely needs some good news we are pleased to indicate this fairly optimistic finding. *If* expenditures are related to the level of goods and services provided and *if* these expenditures make at least some difference in students' achievement then there was probably greater equality of opportunity at the end of the period than at the beginning of the period. These are, to be sure, big "ifs" and current research is not too helpful in determining how valid the assumptions may be (4). Nothing here tells us *why* expenditures are becoming alike among school districts and we shall not even pause to speculate on the matter. Figures two and three tell us that the same phenomenon has occurred relative to tax effort. There is therefore less tax inequality at the end of the period than at the beginning of the period. The current demand for local property tax relief in this state may well be more a response to the overall level of taxes than to the inequality among school districts.

One causal element we can at least rule out at this point. Both the phenomena of decreasing disparity in expenditures and in tax effort could be taking place if school districts were becoming more alike with regard to wealth as measured by property valuation per pupil. However, the data of figure four suggest that this is probably not an important factor. Unit districts were about as unequal with regard to wealth at the end of the time period as they were at the beginning of the time period and elementary districts were more unequal with regard to wealth than they were at the beginning of the time period. Only the high school districts illustrate a reduction of variation in wealth. Parenthetically this also tells us that if the goal of the school district reorganizations in recent years in Illinois has been to reduce wealth disparities they have succeeded only with regard to high school districts. Of course the variance in property valuations among school districts is affected by complex locational decisions of individuals and corporations and not solely by school district reorganization.

*We wish to thank Mr. Jaw Nan Hou and Mr. Venancio Garagon for the preparation of some of these data. We are also indebted to Dr. Charles Hempstead of the OSPI for making data available to us and to Mr. C. P. Harding and the Illinois State University Audio-Visual Center for the preparation of the graphs.

State Fiscal Policy

The simple disparity analysis is useful for informing one of trends in progress, but it does little to cast light upon the effects of deliberate state educational fiscal policy. To do that, one needs to focus upon certain kinds of districts and see how they are affected by the mix of state and local fiscal decisions. At this point we faced an interesting dilemma relative to the unit of analysis that should be used. In the disparity section above we focused upon the school district as the unit of analysis. However, are we really interested in *districts* or in the *pupils* of those districts? Put another way, is it not perhaps poor students rather than poor districts that is the proper focus of attention when we investigate what the state has, or has not, done with respect to equalizing educational opportunity? At this point we could certainly use a measure of family income for each district in Illinois but only limited and incomplete income data was available to researchers working on projects for the Committee (5).

We therefore decided that we would focus on the poorest quarter of the students in Illinois, defining this poorest quarter by ranking the districts from high to low on the basis of property valuation per pupil and then aggregating upward from the bottom of the rank order until we had cumulated one quarter of all the students in Illinois regardless of how many districts it took to cumulate to this point. Such a fundamental operational definition then affects all our results thereafter. The first thing that can be observed is that many of the large urban areas, and most importantly the city of Chicago, are simply not in this poorest quarter of students as we have defined them. This suggests that our data in figures five, six, and seven relate as much to the state's treatment of rural poverty as it does to the treatment of urban poverty. Or it relates to the equalization of educational opportunity in the more rural areas rather than the more urban areas if that is the frame of reference used. Further analysis of these data are needed by various categories of districts, i.e., urban v. rural, by type of suburb, etc. before we can say much on this score. We need also to define the lower quarter in terms of school districts and then observe the difference that using districts makes rather than using students.

We can, however, offer at least some findings at this point which may contribute to the current debate on state school finance policy. First, as figure five demonstrates the poorest quarter of students received about the same slice of the pie at the end of the period that they did at the beginning of the period. That is to say the total effect of local, state, and federal expenditure policies has apparently been almost neutral as far as the poorest quarter of the students in the state are concerned. It is also possible that local, state, and national effects are neutralizing each other relative to the poorest quarter of students. However, our data can not cast light yet upon this speculation. The results are still mildly optimistic. In the first place the poorest quarter of students in the elementary schools did receive a slightly larger portion of the total expenditures available at the end of the period than they did at the beginning of the period. Also we were pleased to find that the poorest quarter of students are at least in striking distance of receiving what many might feel was their "fair share" of total expenditures, i.e., twenty-five per cent. If of course one believes that the total educational fiscal system should be "compensatory" in nature then the poorest quarter of students should receive more than twenty-five per cent of the funds available. The most important research need here, however, is for some kind of interstate norms. We have no way of knowing at this stage whether this is a good showing relative to equalizing educational opportunities or not. Perhaps some states do even better and quite likely some states do not do nearly as well. It would appear that this type of norm setting research would be a good activity for the United States Office of Education and/or the various school finance task forces operating at the national level.

By contrast the last evidence we have to offer is the most negative. Figure six, which deals only with the unit districts of the state, indicates a decline in state aid going to the poorest quarter of students in the state. However, since this is total state aid, we can not know if this is due more to the result of categorical aid distributions or to results of changes in the general state aid formula that have taken place with the passage of time. The final figure helps answer this question. The data upon which figure seven is based is general state aid distributed by the Strayer-Haig or "foundation" formula that has been in existence in Illinois for over forty years (6).

A very interesting phenomenon can be observed here that probably applies to other states which have separate elementary, secondary, and unit districts; i.e., the so-called, "dual district" states. During the period under analysis the foundation level was raised faster than the qualifying rate. Most observers of the "foundation" grant-in-aid would predict that when this occurs the poorer students will receive a smaller percentage of the state aid since more wealthy districts are becoming entitled to equalization funds. That has, indeed, happened in Illinois for students in unit districts and in elementary districts. However, that same process has had an exactly opposite effect for students in secondary districts. Raising the foundation level and holding the qualifying rate constant or at least not raising the rate very much has placed funds into some of the poorer secondary districts since these districts are toward the top of the wealth distribution. This unintended consequence is typical of the complexities found in so-called "dual district" states. Policy makers in Illinois have been aware of the effects of this increase in foundation level simultaneous with little or no increase in the qualifying rate. In an attempt to stabilize the declining proportion of state aid received in the poorer districts a general "add-on" was placed into the calculation of the state aid formula. Our data are not current enough to determine whether that strategy did or did not prevent the proportion of funds going to the poorer students from falling further.

Summary

The observed reduction in disparity among expenditure levels and tax rates for school districts is a good omen as this state, like others, awaits the *Rodriguez* decision from the Supreme Court. However, we can find little evidence that this reduction in expenditure and tax effort disparity was the result of deliberate state fiscal policy designed to accomplish these goals. Nor can we find any striking evidence that the overall state educational fiscal policy has contributed in any marked manner to equalizing educational opportunities of the poorest quarter of students in the state. To the contrary, the poorest quarter of students may have fared worse in recent years relative to their share of state aid.

The great difficulty we now face is that our measurement of wealth does not allow us to place the urban districts into the lower quartile. Thus attempts to assist urban areas by increasing the density (really size) bonus, or adding a weighting for the concentration of AFDC students in the general aid formula may show on these graphs not as actions that increase equalization, but rather as actions that will decrease equalization. Before proceeding further, we shall therefore have to determine if our definition of "poorest quarter of students" is realistic, and if not, what should be used to replace or modify this measurement.

Notes

1. See for example Judge Alexander Harvey's opinion in *Parker v. Mandel*, U.S. District Court for the District of Maryland, June 14, 1972. Oral arguments in *Rodriguez v. San Antonio* before the Supreme Court in October, 1972, seemed to stress the "reasonable basis" test and to be concerned with the record of Texas relative to the goals indicated.

2. A more complete analysis will be presented to the 1973 Annual Meeting of the American Educational Research Association.

3. Interested readers will find various approaches used to the empirical study of school district disparities in the following publications: Harrison, F. W. & McLoone, E. P., *Profiles in School Support*, 1965, USOE; Hickrod, G. A., "Dispersion of Human Resources and Fiscal Characteristics among School Districts in a Metropolitan Area," *Educational Administration Quarterly*, Autumn, 1967; Hickrod, G. A. and Sabulao, Cesar M., *Increasing Social and Economic Inequality Among Suburban Schools*, 1969, Interstate Publishers; Lows, R. L. and Others, "Fiscal Homogeneity or Heterogeneity among Suburban School Districts in Metropolitan Areas," *Educational Administration Quarterly*, 1970; Rossmiller, R. A., Hale, J. A. and Frohreich, L. E., *Fiscal Capacity and Educational Finance*, 1970, Univ. of Wisconsin Press; Berke, Joel S., Campbell, Alan K., and Goettel, Robert J., *Financing Equal Educational Opportunity*, 1972, McCutchan Publishing Co.; Levin, Betsy, Muller, Thomas, Scanlon, William J. and Cohen, Michael A., *Public School Finance: Present Disparities and Fiscal Alternatives*, 1972, Urban Institute, Washington, D.C.; Johns, R. L., Alexander, K., and Jordan, K. Forbis, *Financing Education: Fiscal and Legal Alternatives*, 1972, Merrill Publishing Co.

4. For two quite different views one might compare Mosteller, F. and Moynihan, D., *On Equality of Educational Opportunity*, 1972, Random House, with *Do Teachers Make a Difference*, 1970, USOE. The most authoritative survey is probably *How Effective Is Schooling?*, 1972, Rand Corporation.

5. 1967 income data for most Illinois school districts is available from the National Educational Finance Project and 1950, 1960, and 1970 census data is available for a limited number of districts in the Chicago and St. Louis metropolitan areas from the senior author. There are problems with the use of both sets of data.

6. The general aid used in figure seven is from simulations of the formula for those years. The basic parameters for the formulae are provided in Evans, A. R., *The New State Aid Formula and the Growth of School Support in Illinois*, 1971, Office of the Speaker of the House.

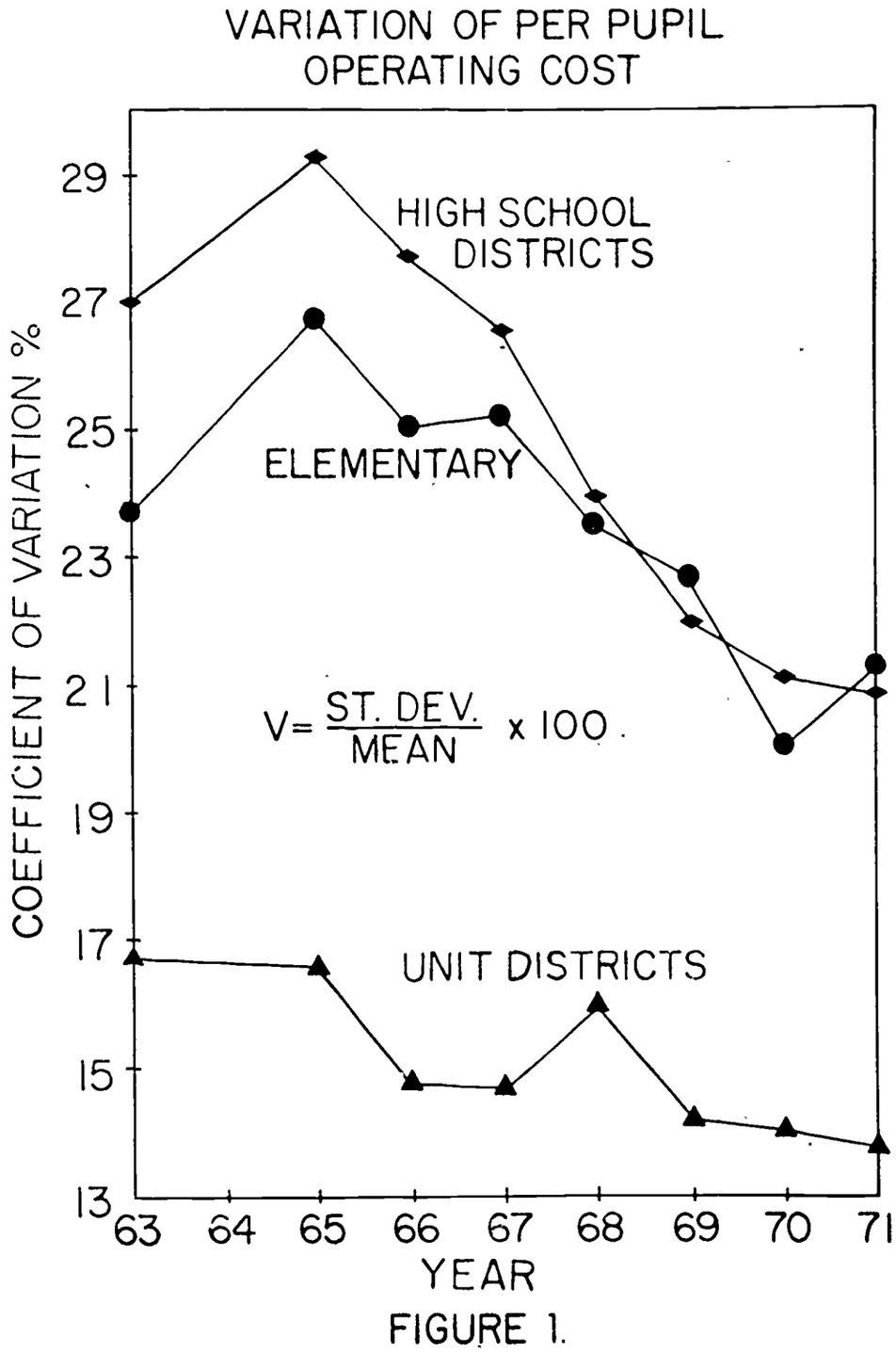
VARIATION OF PER PUPIL
OPERATING COST
COEFFICIENT OF VARIATION %
29
27
25
23
21
19
17
15
13
HIGH SCHOOL
DISTRICTS
ELEMENTARY
V= ST. DEV. / MEAN x 100.
UNIT DISTRICTS
63
64
65
66
67
68
69
70
71
YEAR

FIGURE 1.

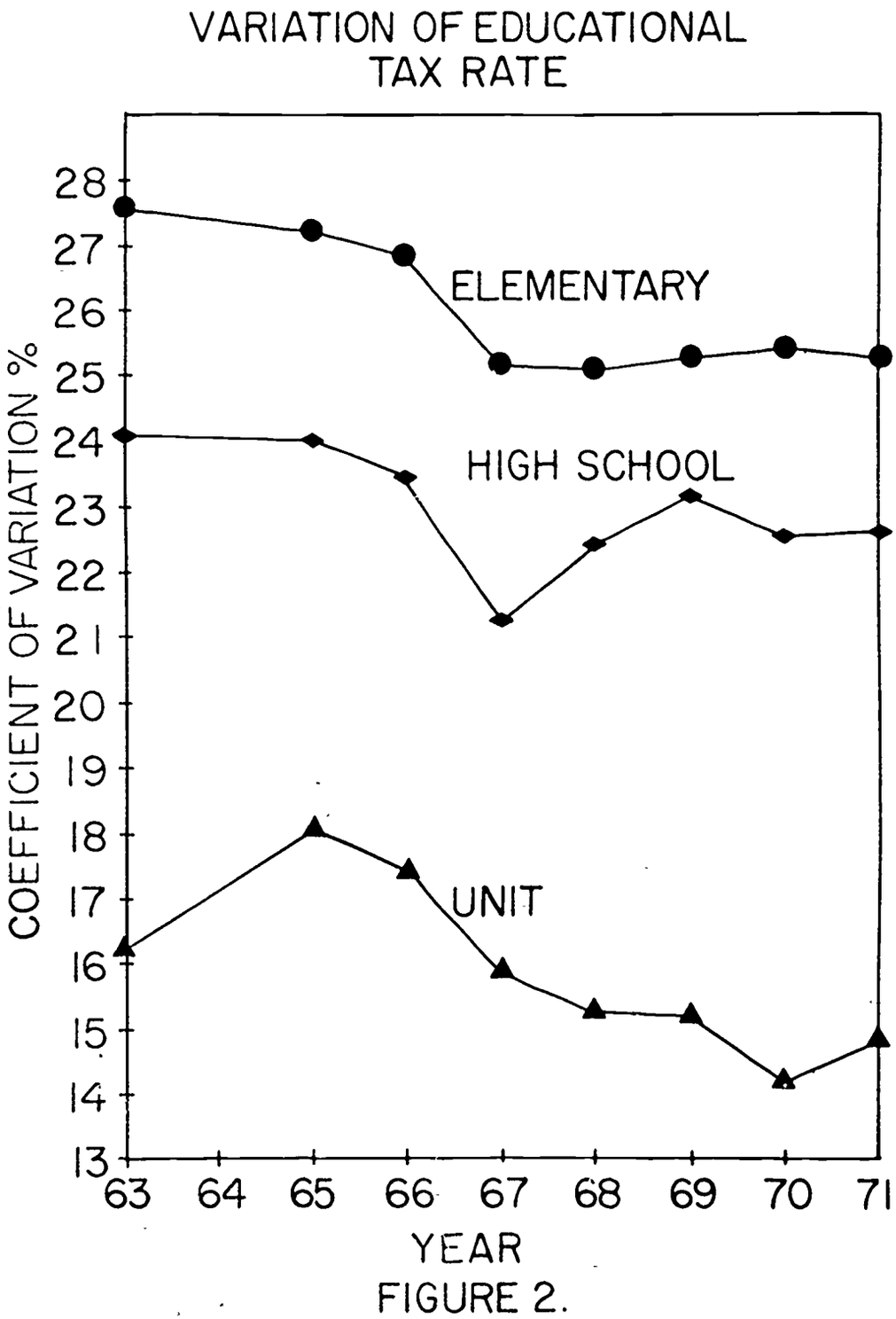
VARIATION OF EDUCATIONAL
TAX RATE
COEFFICIENT OF VARIATION %
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
ELEMENTARY
HIGH SCHOOL
UNIT
63
64
65
66
67
68
69
70
71
YEAR

FIGURE 2.

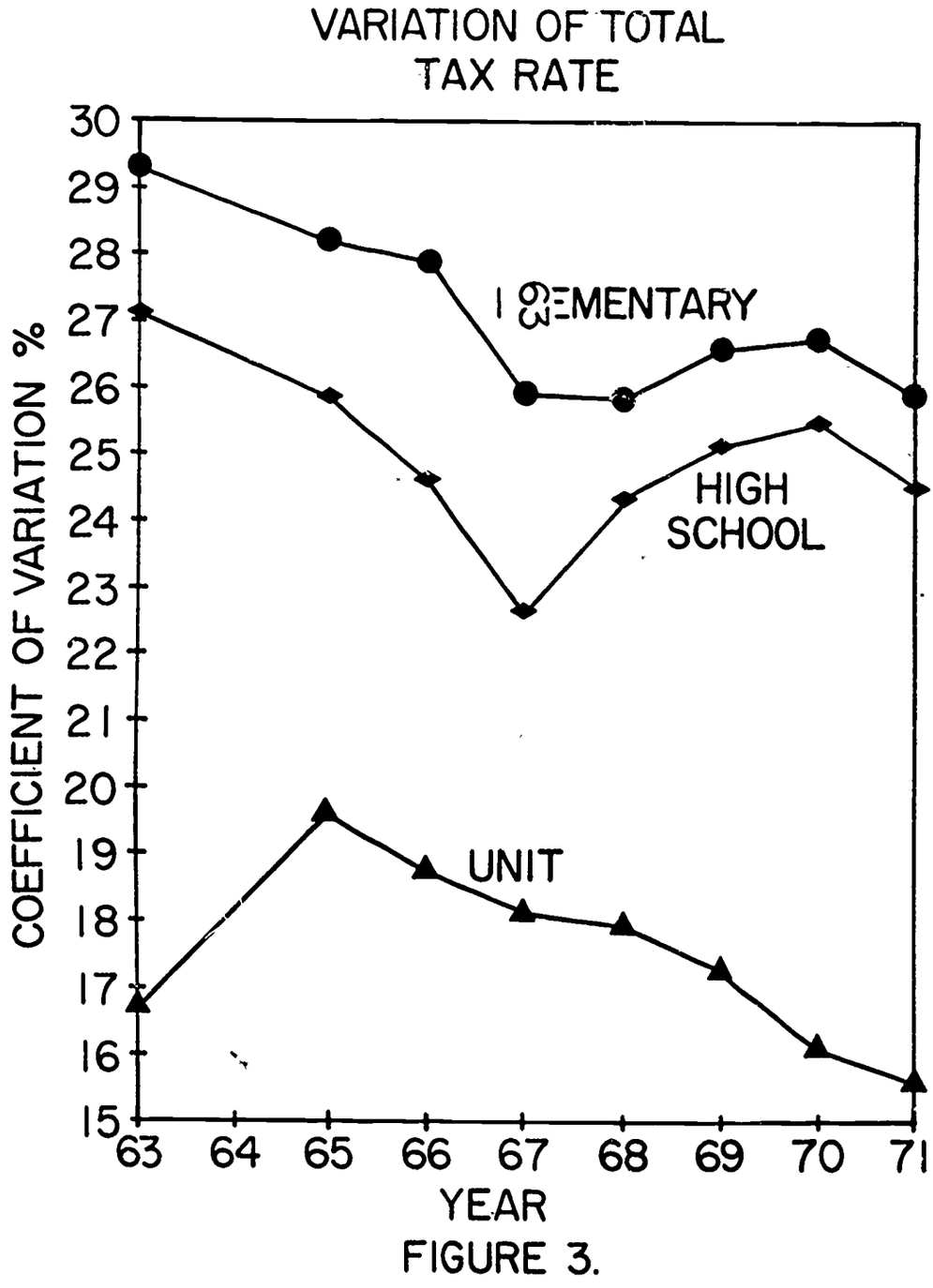
VARIATION OF TOTAL
TAX RATE
COEFFICIENT OF VARIATION %
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
63
64
65
66
67
68
69
70
71
YEAR
ELEMENTARY
HIGH
SCHOOL
UNIT

FIGURE 3.

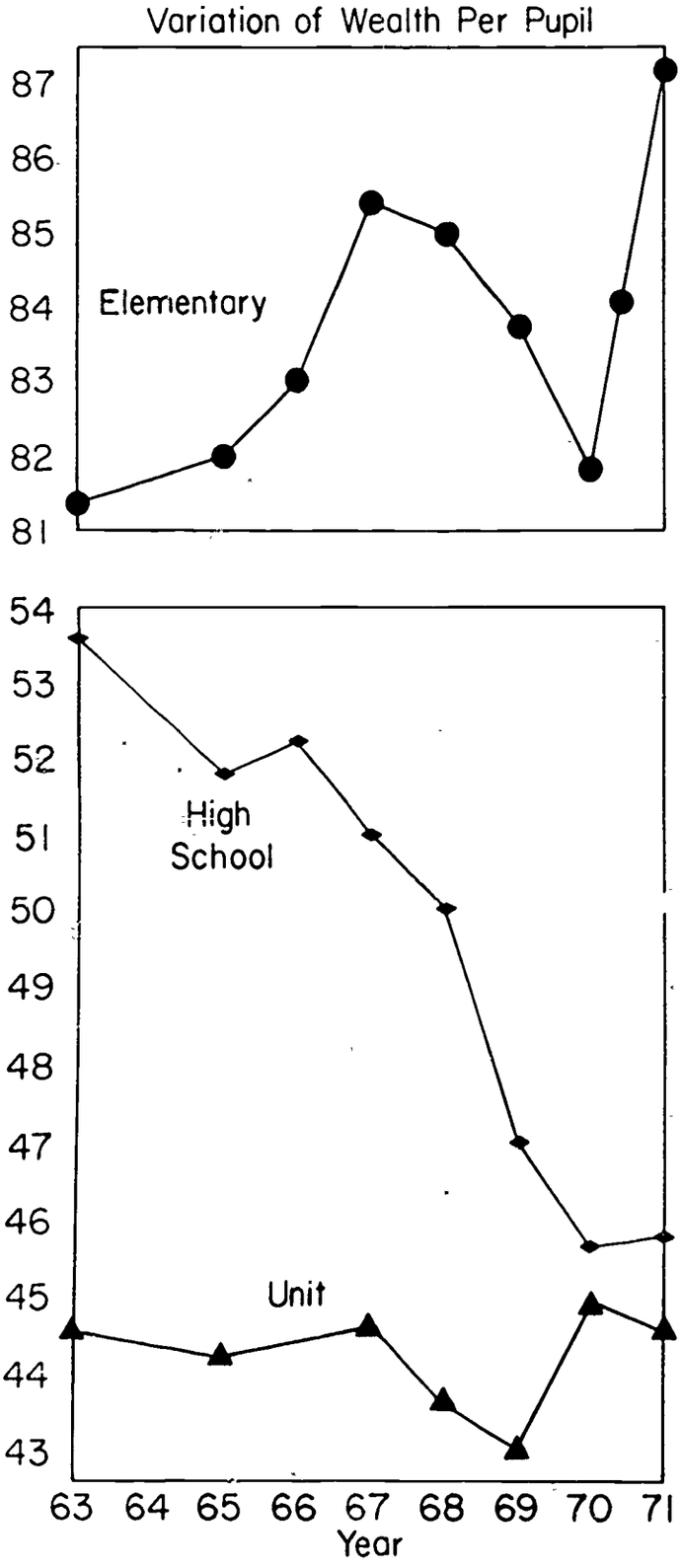
Variation of Wealth Per Pupil
87
86
85
84
83
82
81
Elementary
54
53
52
51
50
49
48
47
46
45
44
43
High
School
Unit
63 64 65 66 67 68 69 70 71
Year

Figure 4.

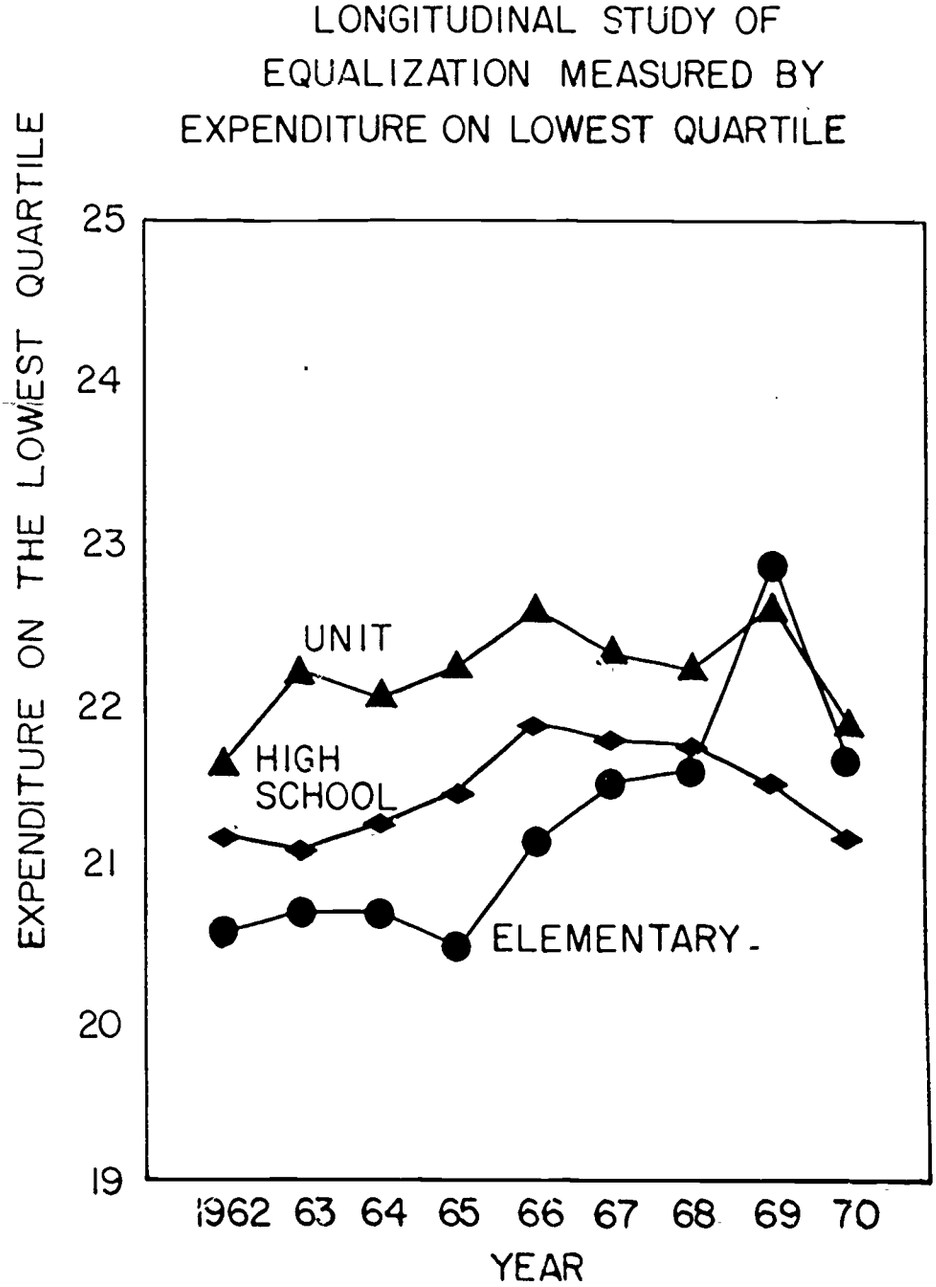
LONGITUDINAL STUDY OF
EQUALIZATION MEASURED BY
EXPENDITURE ON LOWEST QUARTILE
EXPENDITURE ON THE LOWEST QUARTILE
25
24
23
22
21
20
19
UNIT
HIGH
SCHOOL
ELEMENTARY
1962 63 64 65 66 67 68 69 70
YEAR

Figure 5.

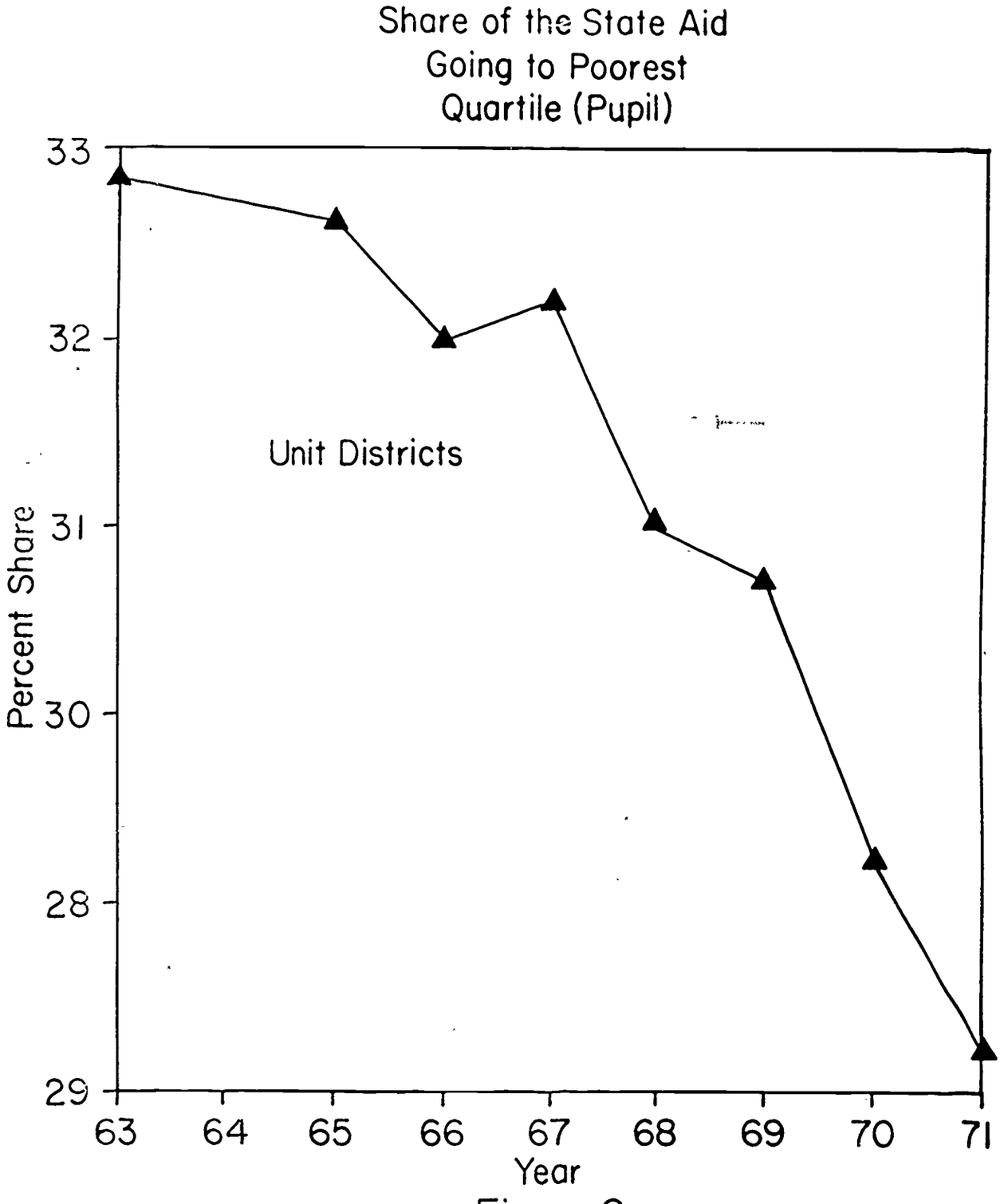
Share of the State Aid
Going to Poorest
Quartile (Pupil)
Unit Districts
Percent Share
33
32
31
30
28
29
63
64
65
66
67
68
69
70
71
Year

Figure 6.

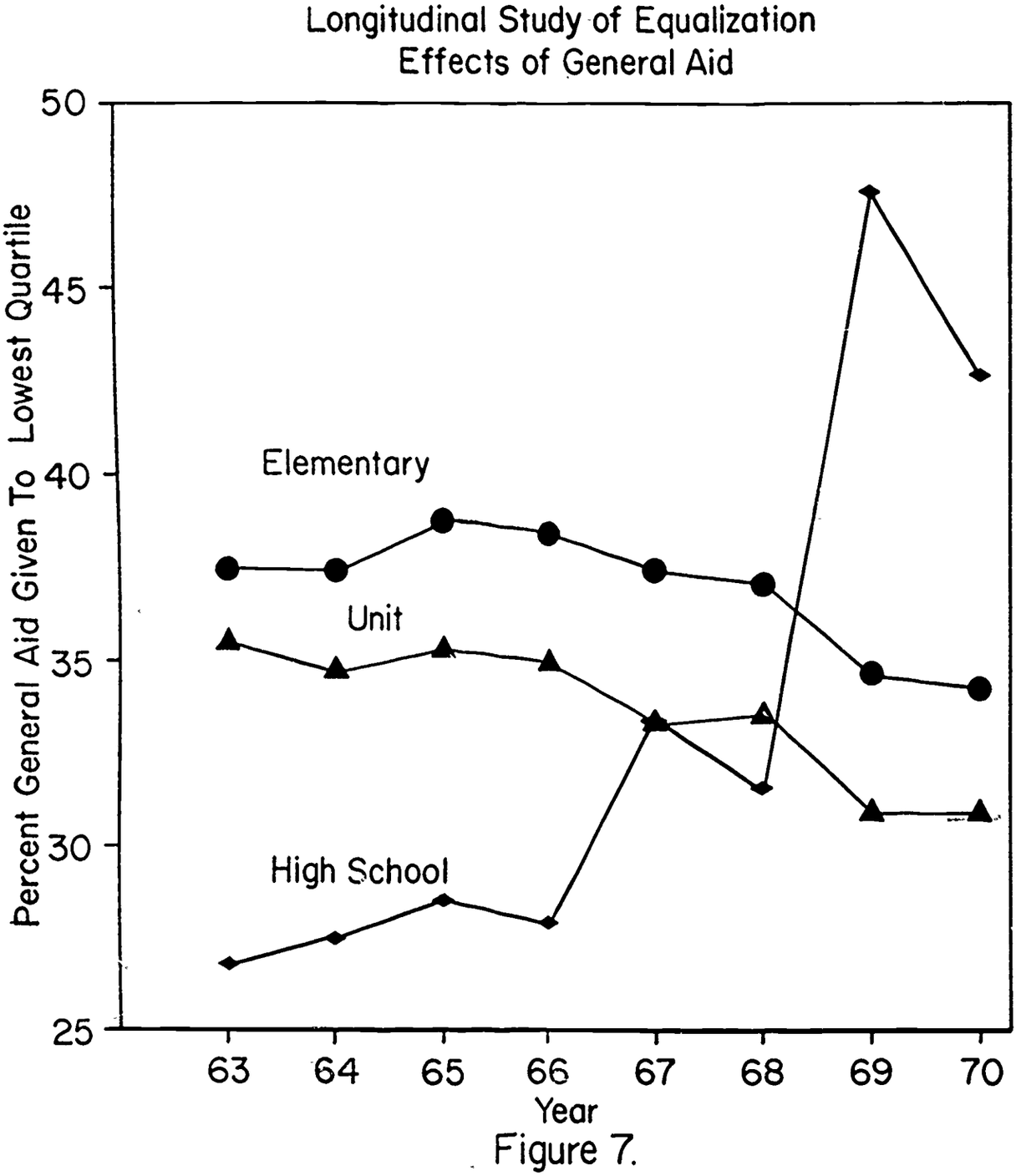
Longitudinal Study of Equalization
Effects of General Aid
Percent General Aid Given To Lowest Quartile
50
45
40
35
30
25
Elementary
Unit
High School
63
64
65
66
67
68
69
70
Year

Figure 7.

DISTRICT POWER EQUALIZATION: AN INITIAL EFFORT TO SIMULATE APPLICATION TO ILLINOIS PUBLIC SCHOOLS

(Part II)

(A Working Draft)

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A Report to the

Superintendent's Advisory

Committee on School Finance

(October, 1972)

The purpose of this paper, as stated in Part I, is to explore the feasibility of applying the district power equalization procedure to Illinois public school districts; to develop a computer program to simulate allocations; and to analyze the results of the simulations.

In Part I procedures were established to determine equivalent measures across district types for expenditure levels and tax rates. For the three year period 1967-68 through 1969-70, it was found the current operating costs for secondary school pupils were approximately 1.6 times that of elementary school pupils. This relationship of 1.6 to 1.0 was found to hold under the dual district organization and with unit district organization. The consistency and stability of the relationship enables one to obtain equivalent expenditure levels for elementary, secondary and unit school districts. It was also found that equivalent tax rates could be obtained by specifying the unit school district tax rate; obtain the equivalent elementary school district tax rate by multiplying the unit district rate by 0.6; and obtain the secondary school district tax by multiplying the unit school district tax rate by 0.4. (The derivation of these values is set forth in Occasional Paper No. 2 of the Superintendent's Advisory Committee on School Finance.)

Given equivalent expenditure levels and equivalent tax rates across district types transition from the present allocation procedure to district power equalization can be simulated. In Appendix "A" is shown a sample worksheet for computing state and local contributions under conditions of full compliance to the district power equalization scheme. The scheme as presented by Coons, Clune and Sugarman requires a one-to-one matching between expenditure levels and tax rates. This matching will, of course, result in a correlation coefficient of 1.0 between expenditure levels and tax rates.

Baseline Data

In order to describe progress in transition to the district power equalization scheme, it was essential to compute baseline data relative to the correspondence between expenditure level and tax rate. In other words, if full compliance to the district power equalization scheme yields a correlation coefficient of 1.0 between expenditure levels and tax rates, what is the present correlation between expenditure levels and tax rates?

The computation of a correlation coefficient is a relatively simple task from a mathematical standpoint, however, the interpretation is often times a more difficult undertaking. Such is the case in interpreting the degree of correspondence between expenditure levels and tax rates across types of school districts. In Occasional paper No. 2, pp 60-61, procedures were outlined for determining equivalent expenditure levels and equivalent tax rates across district types. Equivalent expenditure levels do not enter significantly into the problem of interpreting the degree of correspondence. However, it was advocated in Part I of this paper that either tax rate *or* assessed value be adjusted to the proportion of educational program in grades K-12 which would be provided by the district type. Two strategies were considered for simulation purposes:

(1) Start with actual tax rates in dual districts and adjust tax rates over the transition period to yield rates equivalent to unit district rates, and make corresponding adjustments in the assessed valuation.

(2) Multiply dual rates at the outset by appropriate factors to yield adjusted rates and then proceed with simulation by adjusting the adjusted tax rates and the assessed values during the transition period.

The first strategy was selected for simulation purposes (unfortunately). That is, for purposes of generating baseline data relative to the correspondence between expenditure levels and tax rates across district types, the following definitions apply:

Expenditure Level--operating costs per pupil were converted to equivalent costs per pupil as outlined in part 1 of this paper, p. 60.

Tax Rate--the actual tax rate a district applied to the total equalized assessed value of the district.

The "indicators" of correspondence between expenditure levels and tax rates as defined for each year of the three year period 1967-68 through 1969-70 are presented in Table I.

Table I*

Correlation Coefficient Between
Expenditure Levels and Tax Rates
(1967-68, 1968-69, 1969-70)

year	correlation coefficient
1967-68	-0.06
1968-69	-0.03
1969-70	0.01

*Refer to discussion of limitations of use of the correlation coefficient

No attempt is made to interpret that the values reported in Table I indicate lack of correspondence between expenditure level and tax rate across district types. While this may or may not be true, the computed values were not employed for purposes of testing that hypothesis.

Simulations

Limitations

Numerical quantities derived in previous sections of this paper were based upon actual values reported by the Office of Superintendent of Public Instruction. In this section of the paper these numerical values will be used in efforts to find a solution to several "what if" questions. Therefore, it seems necessary to emphasize the limitations of such an approach.

(1) The mulations are based upon "current operating costs" and "educational tax rate" as reported for 1969-70.

(2) No projections of increases or decreases in assessed valuation and average daily attendance were made.

(3) Parameters were arbitrarily selected, i.e., target expenditure level, target tax rate, amount of variance about the target expenditure level, amount of variance about target tax rate, average annual expected percent increase in expenditures during the transition period, and the number of years in the transition period.

(4) No penalty was operating in allocating funds to elementary and secondary school districts (except as noted).

(5) Transition to full-compliance to district power equalization was brought about by mathematical formulas which resulted in closings for a five year transition as follows:

(a) Educational Tax Rate

Y- - 20%· Y2 - 20%; Y3 - 20%; Y4 - 20%; Y5 - 20%

(b) Dual-Unit Equality (where noted)

Y1 - 20%; Y2 - 20%; Y3 - 20%; Y4 - 20%; Y5 - 20%

(c) Expenditure Level

Y1 - 20%; Y2 - 32%; Y3 - 29%; Y4 - 15%; Y5 - 4%

What . . . If . . .?

What would be a reasonable upper limit on the amount of state revenue if district power equalization were to be implemented under the following conditions:

(1) Costs for $Year_i$ were to be inflated by 10% prior to compliance correction for $year_{i+1}$

(2) Expenditure compliance corrections were to occur at 20% for Y_1; 32% for Y_2; 29% for Y_3; 15% for Y_4; and 4% for Y_5.

(3) Tax rate compliance corrections were to occur at 20% for each of the five years.

(4) Dual-Unit Equality corrections were to occur at 20% for each of the five years.

(5) A target cost of $1200 for Y_1 and a target tax rate of $1.50/$100 for Y_i (constant target tax rate over the five year interval).

(6) Variance about target expenditure level and target tax rate were both set at 5%.

Perhaps a question which should be answered before attending to the matter of estimating an upper limit is what would be the immediate impact upon the school districts? In Table II is shown the results of simulation as previously delimited.

Table II

District Configuration for
Compliance Strategies under
Cost Maximuzation

	too high		within range		too low	
	district	wada				
	4 (e)	14083	0	0	11	4503
	0 (s)	0	0	0	4	7908
		I		IV		VIII
	1 (u)	776	0	0	1	168
	5	14859	0	0	16	12579
$1260						
	6	12886	1	2026	15	2590
			0	0		
	0	0	0	VIA 0	3	14343
$1200		II		2025		IX
	1	4959	0 0		0	0
	7	17845	0 0		18	16833
			0 VIB 0			
			0 0			
$1140						
	31	99547	41	120788	518	353896
	3	32441	9	65322	159	299364
		II		VII		X
	303	1284233	48	60823	37	49213
			$1.575	$1.50	$1.425	

The data displayed in Table II provides some information regarding satisfaction/dissatisfaction to the proposal. For example, cell VII provides information regarding the number of districts with the associated number of weighted pupils who are likely to find the proposal distasteful. The compliance strategy would require that they *reduce expenditure level and increase the tax rate*. On the other hand districts in cell III may be quite willing to accept the proposal because the compliance strategy requires that they *decrease taxes and increase expenditures*. Hence, an "opposition index" might be obtained by taking a ratio of cell VIII WADA to cell III WADA (12579/1402749 = .00897) or by taking a ratio of the number of districts in cell VIII to the number of districts in cell III (16/337 = .04748). The task of determining "critical values" is left to interested parties.

Earlier in this paper it was pointed out that the strategy selected for correction of tax rates and assessed values was not the best choice. The consequences may be noted by analyzing data presented in cells VIII and X. From cell VIII, it is noted that 11 elementary school districts, 4 high school districts and 1 unit district must increase taxes to maximum and lower expenditure levels to maximum as a result of specified compliance strategies. However, it was advocated that an equivalent tax rate for an elementary school district should be approximately .6 that of a unit school district if the rate is to be applied to the total assessed value of the district. Therefore, while the rate of the elementary school district may in fact be less than the lowest allowable tax rate, i.e., $1,425, the adjusted equivalent would be $1.425 ÷ .6 or $2.375. On the basis of the equivalent rate the district would now fall into cell I and the district would be required to reduce expenditure and to re e the tax rate. Thus, the degree of dissatisfaction may be somewhat diminished.

The same arguments apply to elementary and high school district which appear in Cell X. A substantial number of dual districts reported in cell X may actually fall within cell III. Since the compliance strategy of cell X mandated the lowest permissible expenditure level, and whereas, cell III mandates the highest permissible expenditure level, a reasonable upper limit on the amount of state revenue can not be determined by the tax rate--assessed value adjustment procedure which was selected.

The "upper limit" which was obtained does provide information regarding additional state funds which would be required. The amounts for each of the five years as shown in Table III are less than a reasonable upper limit and greater than a reasonable lower limit as defined in Part I of this paper. It should be emphasized that data from 1969-70 is being used for simulation purposes.

Table III

State Funds Required*
(Billions of Dollars)

Year	D U E 20%/yr	D U E
Y_0	1.05*	1.05*
Y_1	1.45	1.62
Y_2	2.01	2.15
Y_3	2.64	2.73
Y_4	3.20	3.24
Y_5	3.68	3.68

*State Funds Required for Y_0 is actually the difference between total operating costs and the amount of the product of the educational tax rate and the total assessed valuation. This yields an over estimate.

Given the parameters selected and the limitations cited, the data suggests a substantial increase in the amount of state fund which would be required. Again it should be emphasized that baseline data is from the year 1969-70.

One objection to district power equalization is that wealthy districts would be required to deliver to the state a portion of dunds raised locally to be distributed state-wide. The extent of the "Robin Hood Effect" is shown in Table IV.

Table IV

Robin Hood Effect
(Thousands)

Year	D U E 20%/yr	D U E
Y_0	------	------
Y_1	48	0
Y_2	438	44
Y_3	664	247
Y_4	576	342
Y_5	263	263

It should be noted from Table IV that the Robin Hood Effect diminishes during the fifth year. This result obtains from the fact that expenditure levels are being inflated and the target tax rate is being held constant over the interval. The net effect is to increase the proportion of school funds which come from state source. In Table V is shown the amounts from local sources, state sources, and the ratio of state to local sources.

Table V

State-Local Resources
(D U E 20%/year)
(Billions of Dollars)

Year	State	Local	State/Local
Y_0	1.05*	.88	1.19
Y_1	1.45	.84	1.73
Y_2	2.01	.80	2.51
Y_3	2.64	.75	3.52
Y_4	3.20	.70	4.57
Y_5	3.68	.65	5.66

*see note Table III

Given the limitations of the data, there does seem to exist some indication of substantial increases in state resources and in the proportion of state to local resources. The effect that increases in these areas has had upon the correspondence between tax rate and expenditure level is shown in Table VI. (Refer to Appendix B for a cell x cell flow of districts as progress is made toward district power equalization.)

Table VI

Progress Toward Compliance
To District Power Equalization
(D U E 20%/year)

Year	Tax Rate--Expenditure Correspondence
Y_0	.01
Y_1	.08
Y_2	.32
Y_3	.74
Y_4	.95
Y_5	.96

After making corrections for year three, one obtains a correlation coefficient of .74 between tax rate and expenditure levels. The cumulative effect necessary to produce this coefficient is as follows:

(1) Cumulative correction to expenditure levels of 81%.

(2) Cumulative correction to tax rates of 60%.

(3) Cumulative correction to Dual-Unit Equality of 60%.

(4) An increase of 250% in the amount of state funds.

(5) A state share of 79% of revenues from state and local sources.

The data suggests that any financial plan which is designed to meet the principle of fiscal neutrality must be more than mere "formula tinkering".

Recommendation

(1) If deemed desirable, the OSPI staff should modify the model in order to obtain better estimates of upper and lower limits on required state sources.

(2) Input data be gathered to include all costs to be equalized and the total of tax rates associated with those costs.

(3) That such costs and rates be that most recent available data.

Summary

This paper has presented a plan for seeking solutions to the school finance problem. Procedures have been outlined and tested with historical data. If the procedures and concept seem appropriate, then recent data which is more inclusive should be utilized in simulation runs for decision-making.

APPENDIX A

Worksheet for District Power Equalization

The formula establishes permissible expenditure levels from $1140 per pupil to $1260 per pupil. The corresponding permissible tax rate ranges from $1.4250/$100 to $1.5750/$100.

Line 1. Selected Expenditure Level per WADA ($1260 or less but $1140 or greater)

_____

Line 2. Mandated tax rate (see table 1) _____

Line 3. Adjusted tax rate (Line 2 x 1.0 for unit districts, 0.60 for elementary districts, and 0.40 for secondary districts)

_____

Line 4. Guarantee (Line 1 x District WADA) _____

Line 5. Assessed Valuation _____

Line 6. Adjusted Assessed Valuation (Line 5 x 1.00 for unit districts, 0.60 for elementary districts, and 0.40 for secondary districts)

_____

Line 7. Common School Revenue from property tax (Line 3 x Line 5) or (Line 2 x Line 6)

_____

Line 8. State Aid Claim. If line 7 is less than line 4, then state aid claim is (Line 4 - Line 7)

_____

Line 9. Remit to OSPI--If line 7 is greater than line 4, then remit for redistribution the amount of (Line 7 - Line 4)

_____

TABLE 1

Hypothetical Set of Permissible
Tax Rates and Per Pupil Expenditures

Per Pupil Expenditure	Tax Rate (per $100 AV)
Col. 1	Col. 2
$1260.00	$1.5750
1240.00	1.5500
1220.00	1.5250
1200.00	1.5000
1180.00	1.4750
1160.00	1.4500
1140.00	1.4250

If selected expenditure level (1260 or less but $1140 or more) is not included in the Table, the corresponding tax rate may be found by interpolation.

Line A Selected Expenditure Level _____

Line B Next lowest Expenditure Level from Table 1 _____

Line C (Line A - Line B) _____

Line D (Line C ÷ 800) _____

Line E Tax Rate corresponding to expenditure level of Line B _____

Line F Mandated Tax Rate (Line D + Line E) _____

Line G Adjusted tax rate (Line F x 1.0 for unit districts; 0.60 for elementary districts; or 0.40 for secondary districts) _____

Sample Problem

Select expenditure level of $1255 for elementary school district.

Line A 1255

Line B 1240

Line C 15

Line D .0188

Line E		1.5500
Line F	Mandated Tax Rate	1.5688
Line G	Adjusted Tax Rate	0.9413

YEAR 1

	4	14083	0	0	11	4503
	0	0	0	0	4	7908
	1	776	0	0	1	168
1260	5	14859	0	0	16	12579
	6	12886	1	2026	15	2590
			0	0		
	0	0	0	0	3	14343
1200			1	2026		
	1	4959			0	0
	7	17845	0 0	0 0	18	16933
			0	0		
			0	0		
1140	31	99547	41	120788	518	353896
	3	32441	9	65322	159	299364
	303	1284233	48	60823	37	49213
	337	1416221	98	246933	714	702473
		$1.575		$1.50		$1.425

YEAR 2

	4	14083	0	0	11	4503
	0	0	1	7427	3	481
	1	776	1	168	0	0
1386	5	14859	2	7595	14	4984
	6	12886	1	2026	15	2590
			0	0		
	0	0	1	462	3	14343
1320			2	2488		
	2	5297			0	0
	8	18183	0 0	0 0	18	16933
			0 0	0 0		
	31	99547	41	120788	518	353896
	3	32441	9	65322	159	299364
	300	1270770	49	73487	37	49213
	334	1402758	99	259597	714	702473
		$1.575		$1.50	$1.425	

YEAR 3

	4	14083	0	0	11	4503
	0	0	1	7427	3	481
	1	776	1	168	0	0
1524	5	14859	2	7595	14	4984
			2	3447		
	10	25077	1	9233	15	2590
			1	462		
	1	0	4	13142	3	14343
1452	13	572322			0	0
	24	597399	0 0	0 0	18	16933
			0	0		
			0	0		
1379	27	87356	40	119 119367	518	353896
	2	32441	8	56089	159	299364
	289	703779	49	73487	37	49213
	318	823576	97	248943	714	702473
		$1.575		$1.50 $1.425		

YEAR 4

	4	14083	7	3835	4	668
	0	0	2	7548	2	360
	1	776	1	168	0	0
	5	14859	10	11551	6	1028
1676			17	46061		
	36	110373	4	30204	14	1432
			14	30124		
	3	0			2	2505
1597			35	106389		
	296	1266189			0	0
	335	1376562	1 1158		16	3937
			1 11838			
			0 0			
			2 12996			
1517						
	1	2060	25	76753	518	353896
	0	32441	5	35118	159	299364
	6	9879	36	43826	37	49213
	7	44380	66	155697	714	702473
		$1.575		$1.50	$1.425	

YEAR 5

	4	14083	11	4503	0	0
	0	0	4	7908	0	0
	1	776	1	168	0	0
	5	14859	16	12579	0	0
1843						
			41	121229		
	37	112433	9	65322	1	43
			43	60738		
	3	0	93	247289	0	0
1757						
	302	1276067			0	0
	342	1388500	14 2547		1	43
			3 14343			
			0 0			
			17 16890			
1669						
	0	0	1	1585	518	353896
	0	0	0	0	159	299364
	0	0	7	13211	37	49213
	0	0	8	14796	714	702473
		$1.575		$1.50 $1.425		

RELATIVE CONTRIBUTIONS OF PROPERTY AND PERSONAL INCOME TAXES TO EQUALIZATION OF PUBLIC SCHOOL SUPPORT

by

William P. McLure
October 1, 1972

Two big issues in the Serrano and other somewhat similar court cases are: (1) to what extent will states be required to equalize the tax burden for support of public schools, and (2) to what extent will funds be equalized among districts (and perhaps among schools) to ensure an equal educational opportunity for every pupil.

In my opinion, we cannot be sure at the present stage of litigations whether eventually states will be required to make available a uniform amount of funds to each school district on some presumed cost unit basis such as head count of pupils (enrollment), average daily attendance, average pupil membership, some weighted instructional pupil unit, or on some other basis. There seems to be some hint that such uniformity as this may not be required so long as the level of support in any district is not restricted primarily to the local taxable resources of the district.

Illinoi. nd three other states still have more than 1,000 school distri d, as a result of such large numbers, they have the widest disparity among districts in local taxing capacity. In Illir nge among unit (K-12) districts is 28 to 1; 63 to 1 in elementary districts; and 9 to 1 in high school districts. Even i s like Florida, Maryland, and West Virginia with fewer than 100 districts the range is as high as 5 to 1, a difference which creates more disparity in the total available revenues to districts than the courts may allow in the future.

Various propositions have been argued for years as means to improve the equity among taxpayers in Illinois: reduction in number of school districts; transfer of local property taxation to the state and thereby establish fullstate funding; abolition of all property taxes; and rehabilitation, but retention, of the local property tax.

While reduction in number of districts would contribute to equalization of taxing capacity on property, there are other more compelling reasons for reorganization than this one. The last proposition in this list appears to be the most definsible one for some time to come while rational and orderly changes can be made in reorganization of districts. I believe most citizens prefer to retain a system of public education with local, state, and federal participation in financing, leading to a reasonable degree of equalization of funds as may be necessary to provide equal educational opportunity for every pupil.

If local property taxation for schools is retained, as I think it should be, the fundamental issues relating to equalization of tax burden and financial resources can be resolved by modifying fiscal policies on two forms of taxes, property and income. Sales taxes constitute another major source for state administration. They are not satisfactory for extensive use locally. However, we can examine the major issues by focusing attention on property and income taxes.

It is not possible to compare the taxing capacity of the property tax base by school districts with the income base because the latter is not identified with school district boundaries in this state. Some researchers make estimates from county-wide census data on average family income, and wages of certain employed workers. However, these estimates are only rough approximations.

Fortunately, there are some accurate data on personal income by Illinois school districts for one year, 1966. These data were prepared for every state by Professor Dewey Stollar[1] in his work for the recent National Educational Finance Project. The data consist only of personal income reported on federal individual income tax returns. Individual returns were identified and tabulated by school districts through the use of zip codes of residents presenting the tax returns. Taxable corporate income was not included.

Table 1 shows a sample of Illinois unit school districts with assessed valuation of property per pupil in WADA 9weighted average daily attendance) for 1967-68 based on 1966 assessments. Comparable data are shown for personal income per pupil. These data are sufficiently recent to illustrate some of the current fiscal policy issues with reference to equalization.

I have picked a sample of districts representing the distribution of unit districts with a high of $108,000 assessed valuation of property per pupil in Monticello to a low of $4,000 in Brookport in 1967-68. (In 1970-71 these were $97,000 and $3,500 respectively.) The corresponding amount of personal income per pupil is shown for each district.

Table 1

Comparative Taxpaying Abilities of Illinois Unit School Districts 1967-68

District	Co. Code	Average Property Valuation Per Pupil WADA	Amount Funds Per Pupil WADA @ $2.50 Rate	Average Amount Personal Income in District Per WADA	Amount Funds Per Pupil WADA @ 3.95% Tax Rate
Monticello	074	$108,000	$2,700	$ 10,000	$ 395
Venice	057	53,000	1,325	7,000	277
Chatsworth	053	42,000	1,050	11,900	470
Raymond (Pc handle)	068	31,000	775	9,600	379
Quincy	001	26,000	650	13,800	545
Chicago	016	22,000	550	19,600	774
Springfield	084	20,000	500	17,000	672
Schuyler (Rushville)	085	19,000	475	9,000	356
Elgin	045	15,000	375	13,400	529
Cairo	002	12,000	300	8,200	324
Brookport	061	4,000	100	5,800	229
Total		$352,000	$8,800	$125,300	$4,950

The property tax base has a range of 27 to 1, while personal income has a range of 3.4 to 1. Let us assume that the following adjustments will be made in property taxation: elimination of personal property as defined in Illinois, adjustments or exemptions for low income families, and any needed improvements in assessment practices. These adjustments will reduce the extremes at the top that might result in a range of about 15 to 1 or even lower. However, these changes will neither eliminate nor resolve the issues that can be illustrated with these data.

Furthermore there is enough empirical research to verify that the WADA figures used here are not the most precise units for equalizing financial support, but again the variations from true figures would not change the general picture.

Table 1 also shows the potential tax yield per pupil for each district from property at a rate of $2.50 per $100 of assessed valuation. This rate may be the level (at present average assessment ratios) at which districts might be expected to levy for current operating expenses to receive the maximum state aid. Capital outlay and debt service might be an additional property tax load of about 50 cents if the state were to share in the financing of capital facilities on an equalization basis comparable to current operating expenses.

Table 1, in addition, shows the potential yeild per pupil from a 3.95% tax on personal income. This figure was computed merely to illustrate what would be needed to match the yield from the $2.50 rate on taxable property to provide an expenditure of $1,250 per pupil in each district in this sample.

These data are illustrated in graphic form in Chart 1. The most striking facts are (1) the great variation in amounts of assessed property valuation per pupil, (2) much less, but substantial variation in personal income per pupil, and (3) little correlation between property and income measures, (4) most of the potential income tax in effect would be collected by the state and returned to the district of origin, (5) the amount of potential yield from property *and* income above $1,250 per pupil would be pooled and distributed by the state as equalization aid to districts with amounts of less than $1,250 per pupil would be pooled and distributed by the state as equalization aid to districts with amounts of less than $1,250 per pupil from sources within their borders.

Table 2 shows a breakdown of inter-district equalization funds between property and income for the "givers" and the total amounts received by the "receivers." In this example, Monticello and Venice would give up some of the property tax and all of the designated income tax. Chatsworth and Chicago would give up some income tax to the "equalization pool."

This model is keyed to $50,000 of assessed property per pupil as the breaking point for equalizing an expenditure level of $1,250 per pupil, using a property tax rate of $2.50 with the remainder supplied from personal income tax.

We can view this sample of eleven districts as a miniature state. Since each example is treated as one pupil, obviously the sums are not the same in relation to each other as true aggregates of all districts. If these rates were applied to all 419 unit districts, the proportions of 64% from property and 36% from personal income would not hold precisely.

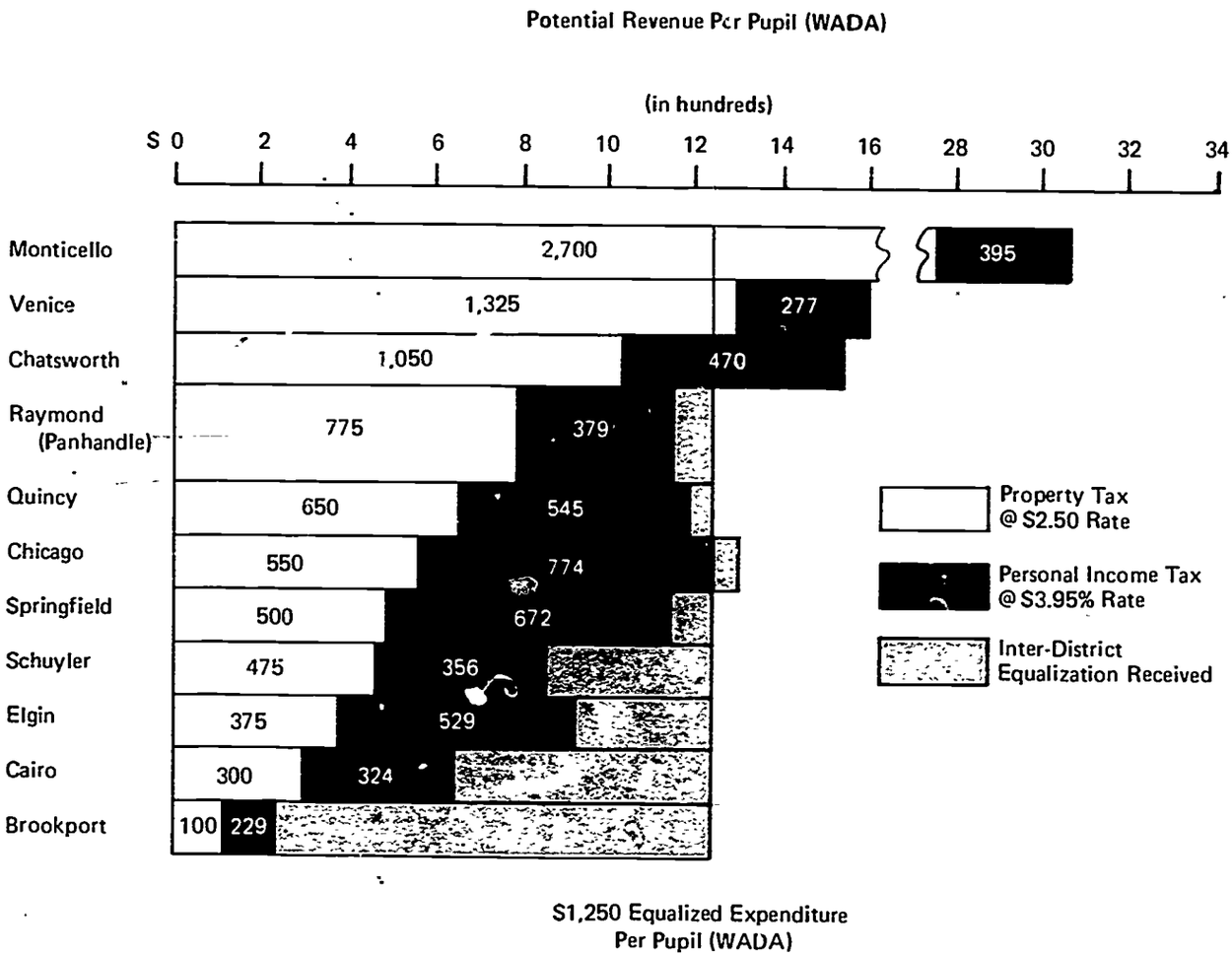

Chart 1: Potential Contributions of Property and Personal Income Taxes to Equalization of Public School Support Illinois Unit Districts 1967-68 Data

Table 2

Distribution of Funds for Inter-District Equalization from Property and Income Taxes at Rates Illustrated in Table 1 1967-68

District	Co. Code	Givers			Receivers
		Property	Income	Total	Total Received
Monticello	074	1,450	395	1,845	--
Venice	057	75	277	352	--
Chatsworth	053	--	270	270	--
Raymond	068	--	--	--	96
Quincy	001	--	--	--	55
Chicago	016	--	74	74	--
Springfield	084	--	--	--	78
Schuyler	085	--	--	--	419
Elgin	045	--	--	--	346
Cairo	002	--	--	--	626
Brookport	061	--	--	--	921
Totals		1,525	1,016	2,541	2,541

Summary

I have not shown the actual tax rates for operating expenses, and thus th· ocal and state revenues available to each district in this sample in 1967-68. In 1970-71 these rates were as follows:

Monticello	$ 0.80
Venice	2.49
Chatsworth	1.93
Raymond (Panhandle)	2.03
Quincy	1.78
Chicago	2.30
Springfield	2.03
Schuyler	1.96
Elgin	2.79
Cairo	2.20
Brookport	2.25

The distribution of rates for operating expenses in all unit districts in 1970-71 was as follows:

Above $3	1
$2.76 - $3.00	9
$2.51 - $2.75	21
$2.00 - $2.50	266
$1.50 - $1.99	117
$1.00 - $1.49	3
Under $1.00	2

The variation from the figure of $2.50 would not be a large gap to be reduced over a few years.

The state does not have to take over the property tax to achieve what may be judged by the courts to be reasonable equalization of this tax base. On the other hand the degree of local discretion may have to be reduced.

The most fundamental question is, what is the level of burden to be placed on the property tax efore turning to income and other state revenues supplemented by federal funds, to obtain the remainder of support? If a given tax rate (such as $2.50) seems to be a reasonable limit for full state aid allowance, and assuming present average assessment ratios, would districts be allowed *any* leeway for additional funds if they choose to exceed this figure?

Another important quest is, what will be a reasonable mandated minimum rate? Will districts have the opportunity to increase their tax effort from the minimum to the maximum and generate equalization aid accordingly?

Will property tax in a few of the wealthiest districts, as illustrated for Monticello and Venice, be subject to full contribution toward equalization? If $50,000 per pupil is set as the resource equalizing level in unit districts and a comparable amount in dual district fter the pending adjustments in personal property assessments, this last question will be of little significance in Illinois. The amount of potential revenue yield in the few districts above this level for redistribution as state equalization aid will be very small.

Therefore, the principle of equity appears to demand two things: (1) defining a reasonable level of burden on property tax which all districts would be required to reach before receiving the full entitlement of aid from the state, and (2) utilization of state taxes to found out the support in te. ms of adequacy and equalization.

Sources of Data

1. Stollar, Dewey, and Gerald Boardman. *Personal Income by School Districts in the United States*. Gainesville, Florida: The National Educational Finance Project. 1971. (Personal income based on individual federal income tax returns for 1966 submitted in 1967.)

2. OSPI, Division of Finance and Statistics. *Annual State Aid Claim Statistics: Illinois Public Schools*. 1968-69. (Estimates based on 1966 annual valuation of property and 1967-68 ADA.)