TOWARD THE RESTORATION OF EQUITY IN ILLINOIS K-12 FINANCE

A Report to the National Conference of State Legislatures and the Illinois School Problems Commission

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It is manifest that the best political community is formed by citizens of the middle class. . . . Revolutions break out when opposite parties, the rich and the poor, are equally balanced, and there is little or nothing between them.

—Aristotle

It is to be regretted that the rich and powerful too often bend the acts of government to their selfish purposes.

—Andrew Jackson

No society can surely be flourishing and happy, of which the far greater part of the members are poor.

—Adam Smith

The more we condemn unadulterated Marxian Socialism, the stouter should be our insistence on thoroughgoing social reforms.

—Theodore Roosevelt

PREFACE

For almost a decade, the Center for the Study of Educational Finance at Illinois State University has carried on research relative to the attainment of "equity" goals in school finance.[1] Its publications have outlined both the philosophical basis of these goals and the measurement techniques used to see if the State of Illinois is either approaching these goals or retreating from these goals.[2] Neither the philosophical nor the measurement side of the equity question will be elaborated upon in this particular study, since the concern here is with more practical legislative matters. Nevertheless, since "equity" is obviously at present not a priority of the federal educational establishment, it behooves us to say, yet one more time, why we feel "equity" is still an important goal for state governments. We shall also provide enough of the details of the measurement side of the matter so that those not familiar with the earlier research of this Center can follow what we have done in this particular study.

The fundamental value from which most of the Center research has originated is: "equalization of educational opportunity." As we have argued elsewhere,[3] we believe that this goal or value is "the" cornerstone of basic democratic political theory. To us, the consequences of not pursuing this goal is nothing less than the eventual collapse of a representative form of government. A stratified society, in which education is the prerogative only of the more affluent families, is assuredly not the society envisaged by the founding fathers. A society in which meaningful educational choice is limited only to the wealthy is repugnant to the basic political traditions of the country. A society which truly believes in "achieved" status and not "ascribed" status, and which actively fosters "upward social mobility" cannot abandon the notion of equal educational opportunity. Therefore, it really matters little whether "equity" is, or is not, currently in vogue at the federal level. To renounce this value would, for us, pull out the very cornerstone of the temple at which we worship, and that we are not about to do to our life's work at this late date in our career.

So let it be clear to the reader from the outset that a decade spent in the search for ways to measure and assess "equity" in school finance is not and never has been merely an educational policy undertaking. Rather, it has been a search based upon the bedrock conviction that an equitable way of funding the public schools is the sine quo non of a democratic and representative society. Both the "new right" and the "new left" will probably find this a quaint and old-fashioned commitment. Both of these groups have apparently given up on the public schools, and having given up, neither are much concerned with how those public schools should be financed. We have not given up on the public schools. We do think the public schools can be financed in a more equitable manner. We also think it is the duty of the courts, the legislatures, and the executive branches to find a way to finance those public schools in a more equitable manner. We further think the Constitution of Illinois requires this, although only the courts can really determine if equitable funding is a constitutional mandate. We finally think that professional educators have an obligation to help those branches of government find that more equitable way of funding the schools. So much for the "credo" and perhaps for the preaching as well. If the reader is interested in further exploration of the philosophical aspects of this question, we must direct him to our previous publications.[4]

GAH

I. Introduction

When a value or goal like "equity" is established, it is unfortunately of limited utility for public policy evaluation purposes unless it is further refined both empirically and quantitatively. Research at the Center has shown that there are many dimensions of "equity," e.g., equity among tax-payers, equity among students, and others. However, two dimensions have remained constant throughout all this search. The first is simply disparity in expenditure per pupil between districts. There are certainly problems with this operational definition of "equity." Expenditures per pupil vary between districts for many reasons. For example, expenditures may vary because of different educational needs, because of different geographic cost-of-living within a state, or because of different willingness on the part of taxpayers to support public education. Many would hold that all three of these sources of variation in expenditure per pupil are "legitimate" sources of variation. Theoretically and statistically it is possible to control for all three of these sources of variation before disparities between districts are measured, but this is seldom done. Nevertheless, many courts throughout the United States, in the wake of Serrano v. Priest, have held and do still continue to hold, that a wide disparity in expenditures per pupil between districts constitutes prima facie evidence of lack of "equity" in the school finance system. In that tradition we have followed the practice here of saying that the state moves toward equity if the disparity in expenditures per pupil is reduced, and away from equity if disparity in expenditure per pupil widens. However, since our expenditures are not controlled for need, at least not for many educational needs, nor geographic cost-of-living differences, nor willingness to tax, we have some reservations about the operational definition of equity as a function of expenditure disparities between districts.

The second dimension of equity is "fiscal neutrality" or "wealth neutrality" and in that approach we have somewhat more faith. The underlying value position and legal position we expressed recently as follows:

> In short, we believe it to be unethical, unprofessional, and probably repugnant to the intent of the Illinois Constitution for the quality of a child's education to be determined by the wealth of a school district in which that child and his or her parents happen to reside. To the extent that the wealth of an Illinois district determines what kind of education an Illinois child receives, to that same extent has equality of educational opportunity been denied to the children of the state. To make the quality of a child's education a function of district wealth is just as suspect to us as making the quality of that education a function of race, creed, or sex. . . . Nor do we believe that a child can be educated to, "the full extent of his or her capacities," as is required in the Illinois Constitution, if the educational service level is a function, not of those capacities, but rather a function of local district wealth.[5]

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In that tradition we have followed the practice here of saying that the state moves toward equity if expenditures are less a function of local district wealth, and away from equity if the expenditures are more a function of local district wealth. The major problem with this operational definition of equity is that there is little agreement in the educational community upon a common measurement of district "wealth."[6] The relationship between expenditures per pupil and property valuation per pupil may be one thing, but the relationship between expenditures per pupil and income per pupil may be something quite different. We shall comment further on this complicated matter later in the study.

Prior research at the Center, using the above definitions of equity, and other specifications of equity, has ascertained that there were two distinct movements with regard to equity in recent Illinois school finance history.[7] The first movement came from 1973 through 1977 and was a movement toward the equity goals discussed above. The "reform" in the Illinois state general purpose grant-in-aid system in the summer of 1973 and four continuous years of rather large increments in state aid brought about a distinct movement toward equity goals. However, since 1977, the movement has been away from those same equity goals. We know that this "counter-reform" has been a matter of both: (a) changes in the grant-in-aid system that tended to offset the original intent of the 1973 reforms, and (b) much smaller increments in new state aid. It seems rather firmly established that, all other things remaining equal, the more the system relies upon local wealth, and not state aid, to support K-12 education, the greater will be the equity problems. The period between 1973 and 1977 was a period of moving away from local revenue sources to support K-12 education; while the period from 1977 forward saw a gradual return to financing K-12 education from local resources. However, this cannot be all of the reasons for the deterioration of equity indexes since 1977.

This study is divided into eight parts. After this introduction, we investigate further reasons for the deterioration of equity in Illinois. We then turn to a section labeled "business as usual." In this portion of the study we predict what the future state of equity will be like in Illinois if the present general grant-in-aid is kept pretty much intact and the trends which we have discovered continue for the next few years. This projection of the future state of affairs under the "business as usual" format is, unfortunately, not a very pleasant one; therefore, in Part IV we begin the search for a new method of general purpose grants-in-aid which will do more for us in an equity sense than the present one. The remainder of the study explores some of the consequences of adopting in Illinois a type of supplementary general purpose grant-in-aid which we have unabashedly copied from New York state. Two quite different methods of financing this proposed new legislative initiative are explored and the equity consequences of each noted. Finally, a summary of the findings, principal limitations, and questions for further research are provided. Since each segment of the study can stand partially on its own, the tables relating to that segment are placed at the end of the segment rather than at the end of the study.

II. Further Investigation of the Deterioration of Equity in Illinois

The analysis of equity problems reported in prior studies of the Center have been based on the entire distribution of school districts in the state. This is, of course, essential if some "over-all" picture of equity is to be achieved for the state. However, the use of all the school districts in the state sometimes obscures important movements in the "tails" of the distribution. As a first step in this study an investigation was undertaken of the richest ten percent of the school districts in Illinois and the poorest ten percent of the school districts in the state. The trends uncovered here help to explain the deterioration of the equity indexes in Illinois over the last several years.

The attached tables show the first, fifth, sixth, and tenth deciles when wealth is measured by property valuation per TWADA (Title I weighted average daily attendance) using 1973-74 as the base measurement for wealth. The first decile constitutes the poorest ten percent of the districts in Illinois and the tenth decile constitutes the richest ten percent of the districts in the state. Dollar values per pupil or tax rates are shown for three points in time: 1973-74, 1976-77, and 1980-81. Percentage changes are then calculated between 1977 over 1974, 1981 over 1977, and 1981 over 1974. Ratios between the first and tenth deciles are shown in the final table.

Table 1 presents the data for "total" revenues. This is "total" only in terms of the research design we have been using however. That is, it is the sum of the general state aid and the revenues locally raised. No state or federal categorical funds are included in this analysis. For unit districts it is clear that the poor increased their revenues per pupil faster than the rich over the entire time span: 97.6 percent to 78.9 percent. However, in the second time period (1977-1981) rich unit districts increased their revenues faster than poor districts: 43.2 percent to 31.6 percent. For elementary districts, the poor did somewhat better than the rich: 95.5 percent to 87.9 percent over the entire time period. However, in the second time period (1977-1981), the rich elementary districts did much better than the poor: 50.5 percent to 28.4 percent. Poor high school districts did much better than the rich high school districts over the entire time period: 109.4 percent to 61.8 percent. In the second time period (1977-1981), the rich high school districts did just as well as the poor: 40.3 percent to 39.9 percent. "Second cycle effects" are therefore obvious in all three kinds of districts in Illinois. Simply put, during the 1974-1977 period, the poorer districts did better than the rich districts, but in the 1977-1981 period, the richer districts did better than the poorer districts. Table 1, admittedly, does not add much to what we already knew from previous Center research. The question is "Why did this reversal of equity progress take place?" To begin to answer this question we needed to separate the revenues locally raised from the state aid and to analyze each in terms of rich and poor districts.

Revenues locally raised are displayed in Table 2. The first, and considerably significant fact is that the rich unit districts increased their revenues locally raised faster than the poor unit districts over the entire

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time period: 73.8 percent to 48.8 percent. This phenomena does not appear in either the elementary districts nor in the high school districts. Poor elementary districts, for example, did much better over the entire time period than did rich elementary districts: 135 percent to 92.3 percent. Most of the gains of the poor were, however, in the first time period, where the poor outgained the rich by 42.8 percent to 27.4 percent. For high school districts the poor also did better than the rich over the entire time period: 84.8 percent to 61.1 percent. In contrast to elementaries, this gain was primarily in the second time period where the poor outstripped the rich by 53.5 percent to 38.8 percent. Clearly there are movements in rich unit districts that are not present in rich high school or rich elementary districts, and these movements are more clearly revealed in Tables 4 and 5. We can conclude from Table 2 that the deterioration in the equity condition for unit districts is at least partially a result of local actions and not state actions.

The flow of state general aid money is shown in Table 3. For unit districts the poor did much better relative to state aid than did the rich over the entire time period: 117.4 percent to 9.9 percent. However, in the second time period (1977-1981) state aid did begin to increase in the richer districts: 16.7 percent to 30.4 percent. For elementary districts the poor also did better than the rich relative to state aid: 82.7 percent to 21.8 percent. However, it is important to note that in the second time period (1977-1981) rich elementary districts increased their state aid faster than poor elementary districts: 41.3 percent to 17.9 percent. This same phenomena can be seen in high school districts, the poor did better than the rich over the entire time period: 144.2 percent to 79.1 percent, but the rich high school districts did better than the poor during the second time period. Clearly the flow of state aid contributed to the deterioration of equity conditions in the "dual" districts in Illinois during the second time period. It is less clear that the flow of state aid is the culprit in the unit districts by the next two tables.

Table 4 shows increases in assessed valuations per pupil. For unit districts the significant fact emerges that rich districts did better than poor districts. The rich increased their property valuations by 32.1 percent while the poor only increased their valuations by 27.7 percent. Again, this phenomena does not appear when the duals are analyzed. In both elementary districts and in high school districts the poor districts were able to increase their valuations faster than the rich districts. This highlights the fact, as does so much of the rest of the data, that the three populations in Illinois (units, elementaries, and high schools) are quite distinct populations with different phenomena occurring in the three populations. It should be mentioned that this phenomena of the rich increasing their valuations faster than the poor has been found in other states, notably New Jersey and Pennsylvania.

Table 5 presents the operating tax rates. For unit districts the significant fact emerges that the rich unit districts increased their tax rates faster than the poor unit districts: 28.9 percent to 18.9 percent. Again, this phenomena does not appear for the duals. For elementaries the poor increased their tax rates more than the rich: 23.4 percent to 7.6 percent and for high schools the poor did at least slightly better than the rich:

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15.2 percent to 12.1 percent. Since Illinois operated a "reward for effort" grant-in-aid formula during this entire period it would appear that rich unit districts were better able to take advantage of this formula than were poor unit districts. However, for some reason, perhaps because they were not able to pass local tax referenda, rich elementaries were not able to profit from the "reward for effort" feature, while their poorer cousins did. No real advantage for either rich or poor is seen in the high school districts and this may be because the high schools had no great motivation or need to raise their local tax rates in order to take advantage of the "reward for effort" feature in the Illinois grant-in-aid law during this period.

This same data can be displayed another way, that is, in terms of ratios between the first and tenth deciles. That is done in Table 6. For total revenues, local revenues, and property valuations, the ratio is rich over poor. For state aid and tax rates, the ratio is poor over rich. For total revenues the cycle effect is again evident. The lowest ratio appears in 1976-77 for unit districts and elementaries and then increases in 1980-81. For high schools the ratio drops in 1976-77 and remains at that level in 1980-81. For local revenues the sharp difference between unit districts as opposed to duals is obvious. For units the ratio is constantly increasing while for duals the ratio is constantly decreasing. The difference in state aid between units and duals is also striking. For units the ratio is constantly increasing but for duals the highest ratio was attained in 1976-77 and then has decreased in 1980-81. Similar differences between units and duals can be seen in the ratios for property valuations and tax rates.

What conclusions can we draw from this empirical work to date? We believe that the retreat from equity goals in unit districts in Illinois was as much a product of local actions as it was state actions. Not only did the richer districts tax themselves more, but their assessed valuations were also increasing faster than in the poorer districts. The policy implications of this fact are of some gravity. The data suggest that if equity is to be attained in unit districts in Illinois, then not only will increased state aid have to go to the poorer districts, but some form of limitation may have to be placed on the richer school districts. Both local revenue and tax rate increase limitations are being considered by the Illinois General Assembly, but, of course, neither is particularly attractive to school administrators in the state. The retreat from equity goals for dual districts by contrast seems to be not so much related to actions at the local level. In the period 1977-1981 the state did cause general state aid to flow more into richer dual districts and hence must be held at least partially responsible for the deterioration in the equity situation in the dual districts. Since local actions are not so much involved, the correction of the equity situation in duals may prove more easily accomplished than correction of the situation with regard to units. Finally, our ancient problem of three organizational forms emerges yet again. Until we can arrive at some way to establish one unit of analysis for the entire state and not three—units, elementaries, and secondaries—the equity situation for the whole state will remain unclear.

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TABLE 1

ANALYSIS BY DECILES OF
TOTAL REVENUES* PER TWADA

| Decile | Dollar Amounts | | | Percentage Increases | | |
	1973-74	1976-77	1980-81	1977 over 1974	1981 over 1977	1981 over 1974
Unit Districts						
1	715**	1,074	1,413	50.2	31.6	97.6
5	932	1,121	1,500	20.3	33.8	60.9
6	890	1,054	1,478	18.4	40.2	66.1
10	1,014	1,266	1,814	24.8	43.2	78.9
Elementary Districts						
1	751	1,143	1,468	52.2	28.4	95.5
5	912	1,229	1,581	34.8	23.5	66.4
6	955	1,212	1,695	26.9	39.8	77.5
10	1,373	1,714	2,580	24.8	50.5	87.9
High School Districts						
1	932	1,395	1,952	49.7	39.9	109.4
5	1,096	1,381	2,128	20.3	54.1	94.2
6	1,118	1,388	2,028	24.2	46.1	81.4
10	1,486	1,713	2,404	15.3	40.3	61.8

*Sum of local revenues and general state aid
**Weighted average total revenue/TWADA in the poorest 10% districts ranked by 1973-74 wealth.

Note: Wealth is measured as of 1973-74.

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TABLE 2

ANALYSIS BY DECILES OF
LOCAL REVENUES/TWADA

| Decile | Dollar Amounts | | | Percentage Increases | | |
	1973-74	1976-77	1980-81	1977 over 1974	1981 over 1977	1981 over 1974
Unit Districts						
1	205*	224	305	9.3	36.2	48.8
5	517	610	899	18.0	47.4	73.9
6	520	624	967	20.0	55.0	86.0
10	967	1,152	1,681	19.1	45.9	73.8
Elementary Districts						
1	180	257	423	42.8	64.6	135.0
5	484	645	1,073	33.3	66.4	121.7
6	574	712	1,251	24.0	75.7	117.9
10	1,287	1,639	2,475	27.4	51.0	92.3
High School Districts						
1	545	656	1,007	20.4	53.5	84.8
5	923	1,045	1,533	13.2	46.7	66.1
6	969	1,102	1,630	13.7	47.9	68.2
10	1,418	1,645	2,284	16.0	38.8	61.1

*Weighted average local revenue/TWADA in the poorest 10% districts ranked by 1973-74 wealth.

Note: Wealth is measured as of 1973-74.

TABLE 3

ANALYSIS BY DECILES OF
GENERAL STATE AID PER TWADA

	Dollar Amounts			Percentage Increases		
				1977 over	1981 over	1981 over
Decile	1973-74	1976-77	1980-81	1974	1977	1974
Unit Districts						
1	510*	850	1,109	66.6	30.4	117.4
5	414	511	601	23.4	17.6	45.2
6	370	431	511	16.5	18.6	38.1
10	121	114	133	- 5.8	16.7	9.9
Elementary Districts						
1	572	886	1,045	54.9	17.9	82.7
5	428	584	508	36.4	-13.0	18.7
6	381	500	443	31.2	-11.4	16.3
10	87	75	106	-13.8	41.3	21.8
High School Districts						
1	387	739	945	90.9	27.9	144.2
5	173	335	595	93.6	77.6	243.9
6	150	286	398	90.7	39.2	165.3
10	67	68	120	1.5	76.5	79.1

*Weighted average state aid/TWADA in the poorest 10% districts ranked by 1973-74 wealth.

Note: Wealth is measured as of 1973-74.

TABLE 4

ANALYSIS BY DECILES OF
ASSESSED VALUATION PER TWADA

| Decile | Dollar Amounts | | | Percentage Increases | | |
	1973-74	1976-77	1980-81	1977 over 1974	1981 over 1977	1981 over 1974
Unit Districts						
1	8,614*	8,596	11,004	- .2	28.1	27.7
5	21,497	23,459	30,332	9.1	29.1	41.1
6	23,639	25,595	34,174	8.3	33.5	44.6
10	53,236	55,498	70,355	4.2	26.7	32.1
Elementary Districts						
1	11,286	14,067	21,535	24.6	53.1	90.8
5	27,479	33,725	51,546	22.7	52.8	87.6
6	31,719	37,171	64,010	17.2	72.2	101.8
10	95,593	115,973	170,337	21.3	46.9	78.2
High School Districts						
1	30,987	33,522	49,434	8.2	47.5	59.5
5	51,874	57,104	82,303	10.1	44.1	58.7
6	58,514	65,135	107,027	11.3	64.3	82.9
10	121,422	130,298	176,512	7.3	35.5	45.4

*Weighted average AV/TWADA in the poorest 10% districts ranked by 1973-74 wealth.

Note: Wealth is measured as of 1973-74

TABLE 5

ANALYSIS BY DECILES OF OPERATING TAX RATES

Decile	Rates per $100 Valuations			Percentage Increases		
	1973-74	1976-77	1980-81	1977 over 1974	1981 over 1977	1981 over 1974
Unit Districts						
1	2.406*	2.627	2.861	9.2	8.9	18.9
5	2.408	2.607	2.970	8.3	13.9	23.3
6	2.201	2.431	2.849	10.4	17.2	29.4
10	1.905	2.162	2.456	13.5	13.6	28.9
Elementary Districts						
1	1.588	1.821	1.959	14.7	7.6	23.4
5	1.760	1.919	2.090	9.0	8.9	18.8
6	1.811	1.906	2.084	5.2	9.3	15.1
10	1.427	1.495	1.535	4.8	2.7	7.6
High School Districts						
1	1.753	1.940	2.019	10.7	4.1	15.2
5	1.778	1.823	1.866	2.5	2.4	4.9
6	1.651	1.691	1.544	2.4	- 8.7	- 6.5
10	1.181	1.270	1.324	7.5	4.3	12.1

*Weighted average OTR for the poorest 10% districts ranked by 1973-74 wealth.

Note: Wealth is measured as of 1973-74.

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TABLE 6

RATIO OF DOLLAR AMOUNTS AND TAX RATES
IN TABLES 1 THROUGH 5:
10th AND 1st DECILES

District	1973-74	1976-77	1980-81
Total Revenue: Rich/Poor			
Units	1.42	1.18	1.28
Elementary	1.83	1.50	1.75
High School	1.59	1.23	1.23
Local Revenue: Rich/Poor			
Units	4.72	5.14	5.51
Elementary	7.15	6.37	5.85
High School	2.60	2.51	2.26
State Aid: Poor/Rich			
Units	4.21	7.46	8.34
Elementary	6.57	11.82	9.85
High School	5.78	10.86	7.87
Property Valuations: Rich/Poor			
Units	6.18	6.46	6.39
Elementary	8.47	8.24	7.91
High School	3.92	3.87	3.57
Tax Rates: Poor/Rich			
Units	1.52	1.21	1.16
Elementary	1.11	1.23	1.28
High School	1.48	1.53	1.52

III. The "Business as Usual" Model

Having ascertained a better picture of the forces at work on the equity picture in Illinois, our next task was to project what the equity picture might look like in Illinois by 1984-85 if only minor changes were made in the Illinois general purpose grant-in-aid. Our rationale for doing this was that the rather bleak revenue picture in Illinois did not, and does not, augur well for any drastic changes in the Illinois general purpose grant-in-aid system. We had hoped that only minor changes in the grant-in-aid system might change the equity picture in the state. As the analysis reported below indicates, our hopes were not sustained.

This projection assumes an eight percent annual increase in the support level until 1984-85. We have projected the assessed valuations forward for each district in Illinois using a three-year moving average. We have also projected the weighted average daily attendance (WADA) forward using a three-year moving average for each district in Illinois. We have assumed that local tax rates will not change over this short period. We have also held the Title I count constant, and then computed the Title I weighted average daily attendance for 1984-85 using the present parameters in the formula. In fact, all other parts of the formula have been held constant; that is, the flat grant and the "alternate method."[8]

The costs to the state of this first model are as follows:

1982:	$1,519,621,296
1983:	$1,582,923,143
1984:	$1,640,094,071
1985:	$1,707,864,342

The first problem that can be observed with this model is that in spite of the increased state costs, as noted above, the ratio of local funds to state funds increases throughout the period. Table 7 shows the average general state aid, the average local contribution, and the combined general state aid and local contribution. In the last column the ratio of local contribution to general state aid is noted. It will be observed that these ratios consistently increase from 1982 through 1985. In fact, under this model, by 1985, local contributions will be nearly three and a half times the state contribution in Illinois high school districts. These simulations do not include federal funds nor state categorical funds since we are interested only in the equity effects of the general grant-in-aid system. This situation leads us then to expect that all of our equity tests will be adversely affected. All things remaining equal, when local funds increase faster than state funds, the equity indexes usually move in the "wrong" direction; that is, away from the attainment of equity goals. Either the state must increase its contribution faster than the local revenues, or the local revenue increase must be artificially restricted, by tax and expenditure limitation provisions, in order to improve the equity showing. This is especially true if property-rich districts are increasing their local contributions faster than property-poor districts. We find it difficult to restrict educational opportunity by endorsing tax and expenditure limitation legislation.

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Tables 8 through 13 outline the results of the equity testing of model one. Simple revenue disparity between school districts is measured by the coefficient of variation in both weighted and unweighted form. The weighted approach allows larger school districts to have a greater effect on the equity indexes. Tables 8 and 9 show that disparity between school districts increases with the passage of time. Table 10 shows the results of the McLoone Index. The McLoone Index measures the progress of the lower spending districts in moving toward the median expenditure. Additional details of these measurements will be found in Appendix A. Table 10 shows that the situation deteriorates for elementary districts, but improves for unit districts and high school districts. In this index, unlike the other indexes used in the report, a larger value is more desirable than a smaller value.

In Tables 11, 12 and 13, the focus is upon a different aspect of "equity," namely, wealth neutrality. If the system is wealth neutral, then there should <u>not</u> be a strong relationship between the property-wealth of the district and available revenues. Table 11 measures this relationship between the wealth and revenues by the Gini Index, while Tables 12 and 13 measure this relationship by the least squares regression of revenues upon wealth. Both variables (wealth and revenues) are transformed into their logarithms before the regression coefficients are calculated. They could, therefore, be thought of as "elasticities." Lower values are desired in both the Gini approach and in the regression approach. Unfortunately, it is clear that the values all systematically rise through time in all three tables. Thus, should this model actually prevail, revenues would be <u>more</u> a function of local wealth at the end of the time period than they were at the beginning of the time period.

We conclude that if the General Assembly does nothing more than raise the support level at 8 percent per year, then the state will continue to move away from equity goals. Therefore, more striking changes are needed in the Illinois general grant-in-aid to move the state toward these goals. Whatever grant-in-aid system is adopted in 1984-85, the poor districts must be given higher proportions of state dollars than they are presently getting in order for the equity indexes to move toward the desired values.

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TABLE 7

LOCAL TO STATE REVENUE RATIOS

Year	Average State Aid*	Average Local Contribution	Total	Ratio
		Unit Districts		
1982	754	857	1,611	1.137
1983	815	935	1,750	1.147
1984	874	1,028	1,902	1.176
1985	942	1,132	2,074	1.202
		Elementary Districts		
1982	559	1,321	1,880	2.363
1983	583	1,478	2,061	2.535
1984	610	1,655	2,265	2.713
1985	638	1,859	2,497	2.914
		High School Districts		
1982	627	1,666	2,293	2.657
1983	650	1,866	2,516	2.871
1984	670	2,097	2,767	3.129
1985	692	2,354	3,046	3.402

* Support Level: 1982 - 1562.44
               1983 - 1687.44
               1984 - 1822.43
               1985 - 1968.22

TABLE 8

PERMISSIBLE VARIANCE CRITERION
COEFFICIENT OF VARIATION
(UNWEIGHTED)

Year	Elementary	High School	Unit
1982	35.50	24.22	14.46
1983	36.56	28.81	17.53
1984	38.95	35.83	25.52
1985	42.41	43.64	36.27

TABLE 9

PERMISSIBLE VARIANCE CRITERION
COEFFICIENT OF VARIATION
(WEIGHTED)

Year	Elementary	High School	Unit
1982	24.87	16.84	9.27
1983	26.89	18.03	11.13
1984	29.49	20.48	16.34
1985	32.75	23.43	23.32

TABLE 10

PERMISSIBLE VARIANCE CRITERION
MCLOONE INDEX

Year	Unit		High School		Elementary	
	Index	Median	Index	Median	Index	Median
1982	.9378	1572	.8914	2085	.9272	1684
1983	.9440	1695	.8957	2255	.9233	1827
1984	.9428	1835	.8974	2443	.9209	1983
1985	.9417	1987	.8985	2652	.9180	2150

TABLE 11

FISCAL NEUTRALITY
GINI INDEX
USING PROPERTY VALUATION PER TWADA

Year	Elementary	High School	Unit
1982	.0869	.0433	.0133
1983	.0963	.0479	.0165
1984	.1067	.0526	.0227
1985	.1188	.0607	.0302

TABLE 12

FISCAL NEUTRALITY CRITERION
REGRESSION APPROACH
USING PROPERTY VALUATION PER TWADA

Year	Elementary	High School	Unit
1982	.30992	.30534	.14326
1983	.32365	.33781	.15738
1984	.34148	.37392	.19277
1985	.35906	.40375	.22505

TABLE 13

FISCAL NEUTRALITY CRITERION
WEIGHTED REGRESSION APPROACH
USING PROPERTY VALUATION PER TWADA

Year	Elementary	High School	Unit
1982	.27960	.27119	.07099
1983	.29814	.29062	.07545
1984	.31595	.32076	.09505
1985	.33491	.35282	.11141

IV. Use of an Income Factor in the General State Aid Formula

At this point in the study we reached a critical turning point. We knew that simply increasing the support level in the present formula would not move the equity indexes in the desired direction. Two options were then available: (a) continue with the present formula, and make more drastic changes in that formula, e.g., elimination of the flat grant and the "alternate method" or (b) introduce a new component into the general grant-in-aid formula which might move the equity indexes in the desired direction. We chose the later path, but we wish to emphasize that the "path not taken" could also have had a distinct impact on the equity indexes. We will also frankly admit that practical political considerations influenced our decision to take the second option. Major changes in the existing formula would result in taking funds away from a fairly sizable number of districts in Illinois. Many of our more theoretically-oriented colleagues advocate doing exactly that. However, we have found that taking funds away from one Illinois school district and giving them to another Illinois school district is akin to taking a bone away from a hungry dog. We were also sensitive to the fact that with federal cutbacks in budgets, and with the present austerity at the state level, it is no longer so clear that fiscal conditions are all that good even in the more affluent school districts in Illinois. For several practical reasons, therefore, it seemed the better course of action to leave the present general grant-in-aid system in place and simply add a component to that system which we hoped would improve the equity situation. Not very courageous, perhaps, but then wisdom is the better part of valour.

We did not have to look far to find a likely candidate for a new factor in the general grant-in-aid system. As early as 1969 the authors of this study had recommended to the Illinois School Problems Commission the use of an income factor in the Illinois general purpose grant-in-aid. Since that time we have had further empirical work on this subject. The studies by Hou and Carson, McMahon, Nelson, and Thornton are particularly helpful.[9] However, in reviewing these and quite a number of other similar studies, Adams and Odden note:

> Most states, however, have not acted on this issue,
> partially because of the difficulty in translating
> the complicated research work into understandable
> policy terms, and partially because changes in fis-
> cal capacity measures significantly alter the
> pattern of state aid distribution.[10]

Bearing in mind the Adams and Odden admonition, we set out to find a fairly simple method of bringing an income factor into the general grant-in-aid system and, more importantly, one that did not greatly disturb the present pattern of state aid distribution in Illinois. This is admittedly quite a "self-denying ordinance." Any change that does not "significantly alter the pattern of state aid distribution" can be expected to have only limited effect on changing the equity indexes in the state. But again, the practical intruded on the ideal. Serious changes in the distribution of state aid would require large increments of new state aid, and the present revenue picture in the state does not suggest that this is in the immediate future.

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The literature referred to above suggests many ways that an income factor can be brought into any state general grant-in-aid system, but most of them do not meet the limitations we have imposed upon any new legislative proposal at this time in Illinois. However, reading some literature from New York state and some brief discussions with New York educational personnel did suggest to us that their system of introducing an income factor into the grant-in-aid picture might meet the present needs in Illinois.[11] In New York state, only about five percent of the general state aid is distributed by an income factor, but it does seem to have some important equity effects. We determined, therefore, that we would simulate the New York procedure in Illinois, and then test the equity effects of that procedure.

Any decision to use income data in the general state aid system in Illinois faces the immediate and very serious problem that Illinois is one of the few states in the middle west that does not collect annual income data on school districts. Many states do this by means of their state income tax returns, but Illinois does not. There is a long, involved, legislative history on this point, and there is little need to discuss it in the context of this study. Suffice it to say that in Illinois every major "blue ribbon" commission on school finance for well over a decade has requested that the state collect annual income data on school districts, but the state legislature has never acted favorably upon these various recommendations. Through the efforts of the Sociology Department at Illinois State University, and particularly through the efforts of Dr. Vernon Pohlmann, income data is available on Illinois school districts from the 1970 federal census of population and housing (collected in 1969). However, this data was considered to be too old to be of use to the study. A second set of data was discovered with Dr. Pohlmann's help in the 1977 general revenue sharing tape.[12] This data was by township in Illinois. With the assistance of a specially developed "geo-reference code" the translation of the data was made from Illinois township to Illinois school district terms. Thus, the data used in the balance of this study is 1977 income data for Illinois school districts.

Since we still had some concern for the age of our income data, the first exercise we completed in this phase of the study was to correlate both per capita income and income per Title I weighted average daily membership (TWADA) between 1969 and 1977. In terms of per capita income, the correlation between the two time periods is quite high, .98. When the data is cast up in terms of income per TWADA, the correlation remains high for elementary and high school districts, .95 and .96, respectively, but it does drop somewhat for unit districts, .74. Details of these correlations are shown in Table 14. Nevertheless, these correlations are high enough that we feel somewhat more secure in using 1977 data as a base for the state aid simulations. It is, of course, true that it would be better to use the income data collected in the 1980 Census of Population and Housing (1979 data), but our research could not await the availability of that data. However, we now have some reason to believe that the relative position of school districts with regard to personal income does not change drastically over long periods of time and, therefore, while it would still be much preferable to collect annual income data in the state, it seems possible to use the data from the Federal decennial Census of Population and Housing to allocate funds to school districts in Illinois. Further light will be cast upon this subject when it is possible to correlate 1969 data with 1979 data.

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Prior to using the income data in the Illinois formula, we also explored the relationship between income per TWADA and property valuation per TWADA for the year 1977 in Illinois. As would be expected from a great amount of previous empirical work in school finance, the overall correlation of these two measures of school district "wealth" is low to very low.[13] For elementaries the Pearson product-moment correlation is .37; for unit districts it is .24; for high school districts it is especially low at .11. However, duplicating an analysis by Hou, we also looked at only the low end of the bi-variate scatter of scores. When our concentration was only on the poorer income districts and the poorer property valuation districts we found that the correlations rose significantly. The unit correlation is .59; the high school .41; and the elementary .33. This raised our hopes considerably, since it means that state aid targeted to low income districts would often be targeted to low property valuation districts and conversely that state aid targeted to low property valuation districts would often be targeted to low income districts. That statement, of course, is true much more for the unit districts than for the dual districts in Illinois.

TABLE 14

CORRELATION BETWEEN
1970 INCOME PER PUPIL AND 1977 INCOME PER PUPIL

District Type	Income per Enrollment	Income per best 9 month ADA	Income per best 6 month ADA	Income Per TWADA	Income Per TWADA
Elem	$r = .9595$ $r^2 = .81$	$r = .9462$ $r^2 = .85$	$r = .9554$ $r^2 = .91$	$r = .9554$ $r^2 = .91$	$r = .9572$ $r^2 = .92$
High	$r = .9595$ $r^2 = .81$	$r = .9599$ $r^2 = .92$	$r = .9565$ $r^2 = .91$	$r = .9565$ $r^2 = .91$	$r = .9634$ $r^2 = .93$
Unit	$r = .7581$ $r^2 = .57$	$r = .7339$ $r^2 = .54$	$r = .7352$ $r^2 = .54$	$r = .7373$ $r^2 = .54$	$r = .7373$ $r^2 = .54$
Without Chicago	$r = .7549$ $r^2 = .57$	$r = .7291$ $r^2 = .53$	$r = .7301$ $r^2 = .53$	$r = .7319$ $r^2 = .54$	$r = .7363$ $r^2 = .54$

Correlation Between
1970 Per Capita Income and 1977 Per Capita Income

District Type	
Elem	$r = .9833$ $r^2 = .82$
High	$r = .9841$ $r^2 = .97$
Unit	$r = .9475$ $r^2 = .90$
Without Chicago	$r = .9480$ $r^2 = .90$

V. The Supplementary General Purpose Grant-in-Aid Based Upon Income (SAI)

The New York method of introducing an income factor differs from the method in Rhode Island, Pennsylvania, and a number of other states in at least one important manner. Income is introduced in its own special allocation formula and no attempt is made to change the basic definition of district wealth in the older general aid formula, which remains property valuation per student. Theoretically, this is not very elegant, because it leaves the state with no common measurement of district wealth. However, what it lacks in theoretical elegance it may have in practical virtues. First and foremost, no state aid is withdrawn from a school district because the legislature saw fit to drastically re-define school district wealth. Therefore there is no need to add "save-harmless" dimensions to the new legislation in order to gain the necessary votes to pass the measure. It is, of course, true that some districts will gain much more under the new legislation than others; and some, in fact, will gain not at all. In the ultimate sense that a dollar used in one place can not be used in another, the non-aided districts can be expected to be less enthusiastic about the proposed legislation than the aided districts. No effect would be possible on the equity indexes were it not possible to aid some districts more than others. Practically speaking, it should be possible to set the parameters in the new legislation so that enough districts will be helped to insure passage of the measure.

Since the income factor appears not in the general formula but in its own allocation formula, it is also possible for the General Assembly to be very clear about how much they wish to allocate based upon income and how much they wish to allocate based upon property valuations. That may be a mixed blessing since one can anticipate lively debate over this particular split. However there are some methods of assisting the General Assembly in making this decision. Thornton[14] suggests that this decision be based upon the partial correlation of income per pupil and property valuation per pupil with expenditure per pupil. The suggestion appears to have merit, and might well be explored as a general guideline as to what might eventually be allocated based upon income versus property valuation. However, for the short run, it seems useful to start with a formula whose parameters are deliberately placed so low that only a small percent of state funds, say in the five to seven percent range, will be based upon the new income factor.

In its general form the SAI formula is rendered as follows:

$$G = A\left[1 - B\frac{DIPU}{SIPU}\right]P$$

where: A = a dollar amount per pupil to be scaled upward or downward depending upon the district's income. The higher this parameter the more the state would put into the supplemental allocation system and the lower the parameter the less the state would allocate based upon district income.

1 - B = this parameter represents the share of A received

by a district of average income in the state. If
B were .60, then a district of average wealth
would receive 40% of A. B also sets the point
where higher income districts are cut from the
allocation system. The higher B is, the less
high income districts will participate in the
supplementary grant.

SIPU = the state average income per unit

DIPU = the district income per unit

P = the pupil measurement chosen

The number of permutations and combinations that can be run on such
a simple algebraic formula continues to amaze us. Some of the decisions
that need to be made are as follows. What will be the pupil measurement
chosen to distribute the funds? It could be average daily attendance,
weighted average daily attendance, or Title I weighted average daily
attendance. The last is the pupil measurement used in the regular Illinois
general grant-in-aid system. What will be the "unit" referred to in the
DIPU and SIPU? This could be any of the three pupil measures noted above
or it could be a non-pupil measurement like income per capita. What will
be the state average income per unit? It could be the state average for
all school districts or a separate average computed for each of the three
types of districts in Illinois; (elementary, high school, and unit
districts). Since the study had neither the time nor the money to simulate
all the combinations and permutations that are possible, we chose certain
patterns related to possible ways to fund the new grant. We freely acknowl-
edge that there is ample room for other simulations and, should the formula
be given serious consideration in the General Assembly, these will doubt-
less take place.

VI. First Method of Funding SAI and Equity Results of that Method

Since the outlook for new revenues at the state level is so bleak, we wished to explore the possibility of funding the proposed SAI out of dollars that would have gone into the current general aid formula. To simulate this condition we held the parameters in the current formula constant for the next three years. Due to the loss of student enrollments and increases in assessed valuations, the general formula, with the parameters held constant, would cost $174 million, $346 million, and $490 million less in 1983, 1984, and 1985, than in 1982. We then redistributed these "savings" into the proposed new SAI according to four different plans:

Plan #1: The "unit" is district income per TWADA. The "state average" is a separate average computed for elementary, high school, and unit districts.

Plan #2: This is the same as plan #1 except that now the unit is district income per capita (population) rather than income per TWADA.

Plan #3: Like plan #1, this uses district income per TWADA as the "unit" but now the "state average" is a single state average for the whole population of elementary, high school, and unit districts combined.

Plan #4: This is the same as plan #3 except that now the unit is district income per capita rather than district income per TWADA.

These different plans were simulated using a B value of .80 and a pupil unit defined as WADA. So the simulated new grant looked as follows:

$$G = A\left(1 - .80 \frac{DIPU}{SIPU}\right)WADA$$

The parameters for the "A" value were allowed to vary depending upon the amount of "savings" to be invested in the SAI from not increasing the parameters in the regular formula. The values of "A" are shown in Table 15. The values of "SIPU" are given in Table 16. With these parameters in place, we then conducted a series of equity tests on the new allocations. The state aid to the districts is now the amount received under the old formula, holding the parameters in that formula constant, plus the new state aid received from SAI. The funds locally raised are the projections from section III of this study. The equity tests are the same as conducted in section III of this study with further details specified in Appendix A.

The results of the equity tests are displayed in Tables 17, 18, and 19. The results are uniformly dismal. Under any of the various plans, disparity among school districts increase and there is a greater tendency for expenditures to be a function of school district wealth. These results are diametrically opposed to what is desired. The single exception to this occurs in Table 20

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where income per capita rather than property valuations appears as the measurement of wealth in the fiscal neutrality test. One would, of course, expect this outcome since the introduction of an income factor into the grants-in-aid formula should show an improvement when the wealth dimension of the fiscal neutrality test is also defined as income. There are some differences between the four plans, but these differences are not important given the generally bad results of the equity tests.

We concluded from this portion of the study that it was not possible to fund the new SAI out of funds "saved" from the regular formula. At least it is not possible to do that and expect better showings on the equity indexes we have used in Illinois for the last several years. This leads us to a different method of funding the SAI and different equity tests based on that method of funding the SAI.

TABLE 15

VALUES FOR THE PARAMETER "A"

	1983	1984	1985
Plan #1	420	856	1242
Plan #2	437	895	1300
Plan #3	402	819	1188
Plan #4	426	871	1267

TABLE 16

VALUES FOR THE PARAMETER "SIPU"

	Elementary	District Type High School	Unit
Plan #1	66276	97363	29922
Plan #2	7279	7279	5866
Plan #3	56157	81147	33189
Plan #4	6371	6371	6371

TABLE 17

PERMISSIBLE VARIANCE CRITERION COEFFICIENT OF VARIATION
(Unweighted)

Year	Plan 1	Plan 2	Plan 3	Plan 4
Elementary Districts				
1982[†]	24.87	24.87	24.87	24.87
1983	27.65	28.10	28.48	28.86
1984	31.65	32.32	33.17	33.82
1985	36.68	37.47	38.75	39.58
High School Districts				
1982[†]	16.89	16.89	16.89	16.84
1983	17.83	17.69	18.56	18.27
1984	19.84	19.55	21.18	20.66
1985	22.72	22.36	24.51	23.89
Unit Districts				
1982[†]	9.27	9.27	9.27	9.27
1983	12.68	12.31	12.45	12.10
1984	19.43	18.49	18.84	18.02
1985	27.22	25.94	26.23	25.13

[†]Income formula was not applied to 1982 data. Equity
measures are provided for comparison purposes only.

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TABLE 18

FISCAL NEUTRALITY CRITERION WEIGHTED REGRESSION APPROACH
USING PROPERTY VALUATION PER TWADA

Year	Plan 1	Plan 2	Plan 3	Plan 4
Elementary Districts				
1982	.27960	.27960	.27960	.27960
1983	.28821	.30294	.29642	.30914
1984	.30354	.32757	.31803	.33956
1985	.33265	.36064	.35142	.37708
High School Districts				
1982	.27119	.27119	.27119	.27119
1983	.27772	.28523	.28939	.29215
1984	.30123	.31222	.32198	.32520
1985	.34454	.35479	.37118	.37200
Unit Districts				
1982	.07291	.07291	.07291	.07291
1983	.07918	.08736	.08117	.08902
1984	.10361	.11716	.10662	.11974
1985	.13668	.15296	.13977	.15550

TABLE 19

FISCAL NEUTRALITY CRITERION GINI INDEX USING
PROPERTY VALUATION PER TWADA

Year	Plan 1	Plan 2	Plan 3	Plan 4
Elementary Districts				
1982	.0869	.0869	.0869	.0869
1983	.0946	.0995	.0979	.1022
1984	.1062	.1144	.1123	.1198
1985	.1240	.1338	.1322	.1415
High School Districts				
1982	.0433	.0433	.0433	.0433
1983	.0459	.0477	.0486	.0492
1984	.0499	.0528	.0547	.0556
1985	.0627	.0656	.0691	.0694
Unit Districts				
1982	.0133	.0133	.0133	.0133
1983	.0203	.0211	.0206	.0214
1984	.0330	.0340	.0331	.0345
1985	.0524	.0529	.0521	.0533

TABLE 20

FISCAL NEUTRALITY CRITERION WEIGHTED REGRESSION
APPROACH USING PER CAPITA INCOME

Year	Plan 1	Plan 2	Plan 3	Plan 4
Elementary Districts				
1982	.51535	.51535	.51535	.51535
1983	.45761	.47094	.48084	.48970
1984	.41608	.43837	.45783	.47244
1985	.42024	.44863	.47524	.49315
High School Districts				
1982	.52136	.52136	.52136	.52136
1983	.47020	.45473	.49808	.47571
1984	.45035	.42062	.50178	.45911
1985	.45165	.41213	.51935	.46185
Unit Districts				
1982	.23720	.23720	.23720	.23720
1983	.10524	.12856	.11605	.13353
1984	.03794	.07916	.06013	.09037
1985	.06074	.11472	.09074	.12970

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VII. Second Method of Funding SAI and Equity Results of That Method

Our experiment with "painless dentistry" in the previous section did not turn out very well—not the first time that what appeared to be a "good idea" in school finance simply didn't pan out. Nevertheless, the reason that the notion didn't work may have made the effort worthwhile. The problem lies primarily in the fact that the locally-raised dollars for education in Illinois continue to increase. Funding the SAI by dollars "saved" from the lower levels of state support in the old formula will, unfortunately, not provide enough of an increase in state-supplied dollars to offset this local side increase. This raises, again, the desirability of "capping off" or limiting the local side dollar increase—not a very pleasant alternative among local school superintendents. However, there is another way of funding the SAI. Suppose we ignore any "savings" and see if providing all new dollars through the SAI would turn the indexes around, at least in the short run.

To make this kind of a simulation we chose values for the SAI very close to those now used in New York state. This gives the SAI the following appearance:

$$G = \$250 \left[1 - .80 \; \frac{DIPU}{SIPU} \right] WADA$$

where:

G = grant under the SAI to the local district

DIPU = the district income per unit

SIPU = the state income per unit

WADA = weighted average daily attendance

As in the previous section, the simulation was run under the four different "plans." The cost to the state in new state revenues for each of these plans is as follows if the plans had been in existence for 1982:

Plan #1:	$106,009,000
Plan #2:	$110,984,000
Plan #3:	$102,297,000
Plan #4:	$105,092,000

The results of the simulations are shown in Table 21 and in the graph following Table 21. The results indicate that placing all new state funds into almost any of the four plans will have a favorable effect on the equity indexes. If there is a choice among the four plans, it is probably for Plan #1, -- income per TWADA with separate state averages used for elementary, secondary, and unit districts. However, the differences between the plans are not great from a state-wide point of view. The different plans do, however, have a quite different effect on individual school
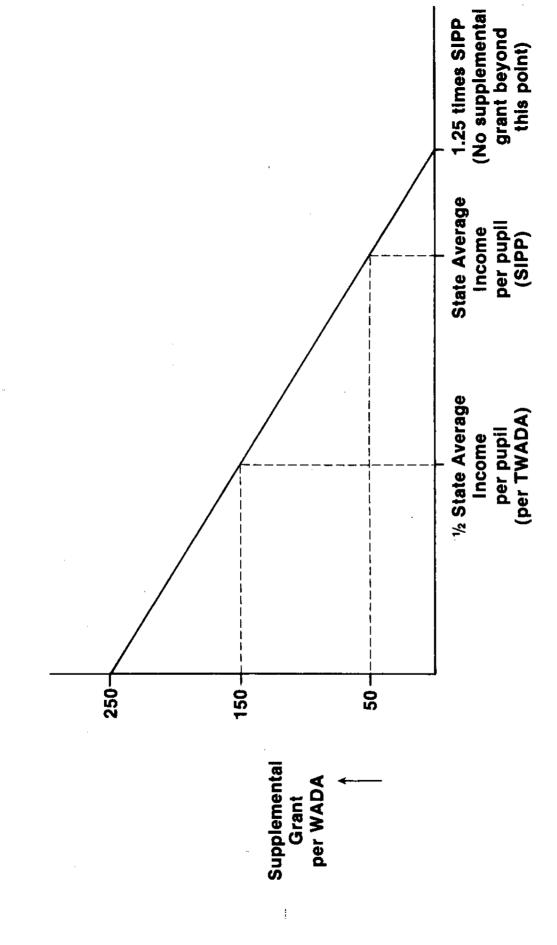
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districts. Table 22 shows the effect of these plans on some selected large
school districts in Illinois. We consider our task in this report accom-
plished once we have shown that the SAI can have a favorable impact on
equity indexes in the state. We leave the "fine-tuning" of the SAI to the
political forces within the state. "Fine-tuning" is exactly that, however.
For the SAI to have the desired equity effect, the choices must be made in
terms of the options offered. Changing the B coefficient in the formula,
for example, would have other equity effects.

TABLE 21

EQUITY INDICES FOR 1982 USING ALL NEW FUNDS
FOR INCOME SUPPLEMENT (SAI)

	Coefficient of Variation Weighted	Weighted Regression Coefficient AUPP	Gini Coefficient AUPP
Elementary Districts			
As is:	24.87	.27960	.0869
SAI Plan 1	22.93	.24482	.0755
Plan 2	23.27	.25607	.0792
Plan 3	23.37	.24879	.0771
Plan 4	·23.68	.25907	.0805
High School Districts			
As is:	16.84	.27119	.0433
SAI Plan 1	15.58	.24254	.0382
Plan 2	15.54	.24905	.0396
Plan 3	16.00	.24947	.0397
Plan 4	15.85	.25291	.0404
Unit Districts			
As is:	9.27	.07099	.0133
SAI Plan 1	8.75	.05249	.0102
Plan 2	8.63	.05879	.0109
Plan 3	8.61	.05331	.0102
Plan 4	8.50	.05974	.0112

TABLE 21

Graphical Representation of the SAI

Supplemental
Grant
per WADA

250

150

50

½ State Average
Income
per pupil
(per TWADA)

State Average
Income
per pupil
(SIPP)

1.25 times SIPP
(No supplemental
grant beyond
this point)

District Income
per TWADA

TABLE 22

SAI PAYMENTS TO SELECTED
SCHOOL DISTRICTS UNDER THE FOUR PLANS

District	Plan #1	Plan #2	Plan #3	Plan #4
Chicago	17,968,429	21,477,357	26,295,541	27,901,450
Rockford	691,548	1,029,881	1,392,547	1,567,276
Rock Island	---	239,374	113,849	379,049
Peoria	---	285,347	188,267	633,885
Bloomington	---	145,012	---	242,140
Urbana	---	242,991	---	322,834
Springfield	---	284,484	---	556,210
Decatur	227,917	446,320	585,116	716,508
E. St. Louis	3,547,340	2,334,236	3,685,591	2,541,633
Cairo	177,955	131,179	274,972	595,846

VIII. Policy Conclusions, Suggestions for Further Research, and Limitations
       of the Study

          For the last several years the Center has been in the very difficult
position of telling its clients things they would really rather not hear.
Perhaps that is the common lot in life of medical doctors and university
professors. No Governor of either party, no Bureau of the Budget, and few
members of the General Assembly like to be told that meeting the mandate of
the state constitution is going to cost them a lot of money. Unfortunately,
that is usually the case. As we have said repeatedly in many of our other
Center studies, "there is no free lunch." Equalization of educational op-
portunity, and the fiscal counterpart of this in terms of achieving equity,
is always going to be an expensive goal for the State of Illinois to attain.
This is especially true when local control is left intact. What this study
makes clear, that was probably not so clear in previous work, is that the
lunch just doesn't get any cheaper with the passage of time. Delaying action
toward equity goals is much akin to saving money by not maintaining a building.
The further you get behind, the more it is eventually going to cost. The
General Assembly would be well advised, therefore, to start investing some
money in equity goals before the roof falls in, probably in the form of a
mandate from the Illinois courts to improve equity.

          This study makes it clear that much of the equity problem lies on the
local side, rather than on the state side. As long as local revenues for
schools keep increasing, the state must not only maintain but also increase
its share of school revenues or the equity problems simply grow worse with
the passage of time. There is a Draconian solution to this problem by
simply preventing locally raised revenues from increasing. If that were
done by property tax freezes or expenditure/revenue limitations placed on
the local side, then state revenues would not have to increase so much to
accomplish equity goals. That "solution" denies the ability of wealthier
districts to use their property wealth for education, even if they wish
to do so. It is the "leveling down" solution to equity, rather than the
"leveling up" solution. It cannot be reconciled with any believable commit-
ment to "local control." That this kind of solution to the equity problem
is unpopular with local superintendents is clearly demonstrated by the
resignation and/or early retirement of almost twenty percent of the district
superintendents in Massachusetts after the passage of "Proposition 2½,"
which was also a means of limiting revenues from local sources.[15]

          There are some other equally severe solutions to the equity problem
that are just about as unpopular. One is to take local funds from the
wealthier districts and redirect those same funds to the poorer districts.
That is the cheapest method of equity for the state government. However,
"recapture provisions" have not fared well in Wisconsin and Maine. We have,
at times, considered this solution to the equity problem in Illinois but
have concluded that Robin Hood does not "play as well in Peoria" as he ap-
parently did in Sherwood Forest. There is a third option, and that is to give all
the new state money to the very poorest districts. This has some historical
precedent in that some states did once operate funds which went only to the
neediest districts. It may also be in keeping with the current "safety net"

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thinking at the federal level. However, at the state level, that option overlooks the important political fact that state aid systems are simply pieces of legislation, and that a grant-in-aid system helping only the very poorest districts in the state seems next to impossible to pass through the General Assembly. This brings us to the real reason why it is so costly to buy just a little increase in equity in Illinois. To purchase a small improvement in the equity indexes it is necessary not only to help poor districts, but also to help those not so poor. One increases the equity indexes by helping many districts with more state funds. The trick is simply to help the poorer districts more than the rich. That is expensive.

We wish it clearly understood that we have not explored all the different means to improve the equity indexes in Illinois. There are many of these proposed legislative solutions and only a sustained and long-term research endeavor by the Illinois School Problems Commission and the Illinois State Board of Education can uncover all the implications of these many proposed solutions. We have been able to demonstrate, however, that the adoption of a supplementary general purpose grant-in-aid, based not upon property valuation but rather upon income, can have beneficial effects on the equity solution in the state. We have also indicated the nature of the short-term costs to the state of this particular partial solution to the equity problem. At the risk of being redundant, we will say yet again that, all other things remaining equal, the amount of "solution" to the equity problem that one "buys" is directly related to the amount of new state funds that the legislature is willing to put into the system. If it be objected on perfectly legitimate grounds that the state recognizes the problem, but "can't afford it now," then a valid response is that "we better afford it now, or we will never be able to afford it in the future."

Too often studies like this end with pious finger-wagging at the General Assembly, together with incantations about the responsibility of the legislature to the poor little children of the state. However, we have limited patience with our educational colleagues who take the position that professional educators have no responsibility for finding the money, only a responsibility for spending the money in an equitable and efficient manner. Such a position may be educationally responsible, but it is not politically responsible. Granted that only a full-scale revenue study can identify potential sources of new revenue to fund equity in Illinois, it is surely clear to most observers that the kind of money we are talking about in this study can come only from two sources; that is, of course, the state income tax and the state sales tax. Recent history in Illinois suggests a lowering of the sales tax yield through exemptions and therefore we believe the solution lies in the personal income tax. We believe an objective evaluation of the rates on personal income in the United States will show that Illinois has one of the lowest rates in the Union. An increase from the present 2.5% to 3.0% on the state personal income tax rate, with, of course, the important proviso that much of this increased yield go to the K-12 schools, would do wonders for the equity indexes in Illinois. The problem has been that increases in new money in recent years has not gone into improving equity, but rather into a futile attempt to keep up with inflation. As we have explained in other studies, "adequacy" and "equity" are related concepts, but they are distinct goals as well. One might keep the system "adequate"

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with the present income tax rates, relying on the natural elasticity of yield in the income tax to keep the educational system somewhere near the rate of increase in the inflation. Unfortunately, that will do little for equity, which will have to wait upon an increase in rates. In the final analysis, it really comes down to this. The General Assembly can bite the bullet on an increase in the personal rate on the state income tax, and put most of that increased yield into increasing equity in the K-12 system, or it can await an eventual judgment by the Illinois courts that the present system of funding K-12 schools is repugnant to the state constitution, and then do exactly the same thing. It would certainly be politically easier to respond to the mandate of the courts, but the delay is going to make the task more expensive.

There are a lot of technical limitations on this study, but we do not propose to outline them all here for any reader who has stuck with us this far. A few, however, must be at least mentioned. Despite almost heroic efforts in this study to get good, or at least usable, district income data, we still have some valid questions about the kind of income data used. We hope it will be possible to repeat parts of the study with 1980 decennial census data and, eventually, with annual income data gathered from the Illinois State Income Tax form. Also, since this study rests partially on projections into the future, those parts of the study that use projections have all the limitations that go into the specific projection technique utilized. Unforeseen changes in the general economy of Illinois, unforeseen changes in demographic variables in Illinois, could alter the results of the projections considerably. We can foresee the future but darkly in our crystal ball. Finally, though we have striven to reduce measurement and computer error, that possibility is always present when dealing with over 1000 units of analysis and many, many computer simulations. We look forward to having our additional sins pointed out to us by our faithful critics and, of course, by the loyal opposition.

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1. For the earliest publication in this sequence see Hickrod, G. Alan, Ramesh B. Chaudhari, Tse-Hao Tcheng, and Charles A. Hempstead, Definition, Measurement, and Application of the Concept of Equalization in School Finance, 1972, Superintendent's Advisory Committee on School Finance, Illinois State Board of Education, Springfield, IL (now available as ED 078 551 in the ERIC system). For the latest publication in the sequence see, Hickrod, G. Alan, Ramesh B. Chaudhari, and Ben C. Hubbard, Reformation and Counter-Reformation in Illinois School Finance: 1973-1981, 1981, Center for the Study of Educational Finance, Illinois State University, Normal, IL 61761.

2. Basic political values are found in Hickrod, G. Alan, Ronald L. Laymon, and Ben C. Hubbard, "Toward a Political Theory of School Finance Reform in the United States," Journal of Education Administration, October 1974.

3. Reformation and Counter-Reformation, op. cit.

4. Ibid. and "Political Theory," op. cit.

5. Reformation and Counter-Reformation, op. cit., p. 2.

6. The controversy over whether income or property valuation is a "better" measurement of the wealth of a school district is of long standing in school finance. For older views on the subject see: Burke, Arvid J., Financing Public Schools in the United States, rev. ed., 1957, Harper and Brothers; Johns, R. L., and E. E. Morphet, (Eds.) Problems and Issues in Public School Finance, 1952, Teachers College, Columbia University; Mort, Paul R., et.al, Public School Finance, 3rd ed, 1960, McGraw-Hill. For more recent research and discussion, see: Adams, E. Kathleen and Allan Odden, "Alternative Wealth Measures," Perspectives in State School Support Programs, 1981, Ballinger Publishing Company; McMahon, Walter W., "A Broader Measure of Wealth and Effort for Equality and Tax Equity," Journal of Education Finance, Summer 1978; Thornton, Robert J., "Weighting Income in Alternative Measures of School District Capacity," Journal of Education Finance, Winter 1981. For prior research on the use of an income factor in Illinois, consult: Hou, J. Dan and Warren B. Carson, Alternative Measures of Local Wealth and Effort, 1977, Center for the Study of Educational Finance, Illinois State University, Normal, IL 61761.

7. Reformation and Counter-Reformation, op. cit.

8. For a description of the operation of the Illinois general grant-in-aid formula, see: Bradshaw, Fred, et. al, State, Local and Federal Financing for Illinois Public Schools, 1981-82, Illinois State Board of Education, Springfield, IL; see also Kanosky, Joe M., G. Alan Hickrod, and Ben C. Hubbard, The Illinois General Purpose Grant-in-aid System, 1973-1981, Center for the Study of Educational Finance, Illinois State University, Normal, IL 61761.

9. See footnote #6 plus Nelson, F. Howard, "The Distribution Equity of an Income Factor in the State Aid Formula," _Journal of Education Finance_, Fall 1980.

10. Adams and Odden, _op._ _cit._, p. 162

11. Bentley, Fred, et.al, _State Aided Programs in Elementary and Secondary Education in New York State_, 1982, State Education Department, Albany, New York.

12. _Current Population Reports_, 1980, T-25, #885-886, Bureau of the Census, Washington, D. C. General Revenue Sharing, 1978; Population Estimates (Machine Readable Data File).

13. See: James, H. Thomas, J. Alan Thomas, and Harold J. Dyck, _Wealth, Expenditure, and Decision-Making for Education_, 1963, School of Education, Stanford University; also, James, H. Thomas, "Alternative Ways of Measuring Taxpaying Ability and Some Policy Implications for School Finance," paper prepared for the annual meeting of the American Education Research Association, Chicago, 1963.

14. Thornton, J. Robert, "Weighting Income in Alternative Measures of School District Capacity," _Journal of Education Finance_, Winter 1981.

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APPENDIX A

FURTHER DETAIL ON EQUITY INDEXES UTILIZED IN THIS STUDY

The Center at ISU has experimented with various equity indexes for
over a decade.[1] In the early years there were only limited contributors
to this field. In more recent years there have been quite a number of
contributions to this area of interest, the most elaborate being those by
Berne.[2] We have not "innovated" very much in this particular study with
these indexes, preferring to stay with the type of measurements we have
been reporting to the General Assembly of Illinois for the last eight years.
The two principal criteria, as indicated in the text of the study, are:
(a) "permissible variance," and (b) "fiscal neutrality."

"Permissible variance" is based upon the assumption that the courts,
the legislature and the executive branch, will "allow" a certain disparity
to continue to exist in expenditures per pupil between districts. The aim
is then to measure this disparity. A great many conventional statistical
techniques are available to measure disparity: the range, the restricted
range (a version of this is the so-called "federal range ratio"), the
interquartile variation, the variance, the variance of a logarithmic trans-
formation, etc. We have tried almost all of these techniques but have
consistently returned to two quite different procedures. The first is the
"coefficient of variation," defined as the standard deviation divided by
the mean and multiplied by 100. There are sometimes two forms of this:
(a) weighted and (b) unweighted. In the weighted form the number of
pupils in the district enter into the calculation. In the unweighted form
each district has the same weight on the calculation. If variation
between pupils is deemed more important, then the weighted values should
be explored; if variation between districts is more important then the
unweighted values should be investigated. In both cases all the measure-
ments are used in the distribution, e.g., it is the variation about the
mean that is considered important.

There has always been another school of thought in school finance
which held, however, that the state had no concern with expenditures above
the mean, median, or some other point in the distribution. That school
holds that the only legitimate concern of the state government is with
expenditures below some measure of central tendency. This school argues
that "bringing up low-spending districts" should be the primary concern of
state government. If one follows this school of thought, the "coefficient
of variation" is not an appropriate statistical device to use in measuring
disparity. This position was held by a number of older scholars in the
field, not the least of which was the late Paul Mort of Columbia University.
Professor Eugene McLoone of the University of Maryland has been an advocate
of this position in the modern era. McLoone has devised several indexes
to look at the bottom half only of either an expenditure or a revenue
distribution. The one used in this study and labelled the "McLoone Index"

is based upon the total revenues below the median, divided by the total revenues below the median plus the amount of revenue required to being all students to the median revenue per pupil. Thus the larger the fraction, the closer the approach to the desired equity state. This is the only equity index in which larger values are preferred to smaller values. In the case of the "coefficient of variation" smaller values are more desirable, and that is also true with the fiscal or wealth neutrality indexes described below.

In addition to the two disparity or "permissible variance" criteria, two additional indexes of "fiscal or wealth neutrality" have been used. The first involves the Gini Index. As in previous research reported by the Center, this index is based upon a bivariate set of measurements rather than a univariate set of measurements. That is, it becomes a measurement of association rather than a measurement of variation. Berne refers to this as a "wealth weighted" Gini coefficient. This usage is to be contrasted with the conventional usage in the discipline of economics which is based upon a single variable and is therefore another measurement of variation. Previous studies of the Center should be consulted for calculation details of the bi-variate Gini Index.[3] The Gini values should be interpreted in the following manner: the smaller the value of the coefficient, the closer the state of Illinois has moved to the goal of wealth or fiscal neutrality. The conceptual formation used here is "absolute" wealth neutrality, not "conditional" wealth neutrality. For work on "conditional" wealth neutrality, other studies of the Center should be consulted.[4]

The more conventional approach to "wealth neutrality" or "fiscal neutrality" is the linear least squares regression in which either revenues per pupil or expenditures per pupil are regressed on some measurement of wealth per pupil—normally, property valuations per pupil or income per pupil. The variables are often transformed into their logarithms and this transformation renders the coefficient an "elasticity." The standardized regression coefficients should be interpreted as follows: the smaller the value of the coefficient, the closer the state of Illinois has moved to the desired goal of wealth neutrality. In this report, as in previous reports, we have used both income and property valuations as separate specifications of district wealth.

In recent years we have also used both a weighted and an unweighted approach to the regression procedure. In the unweighted regression, each school district has the same effect on the equity index, e.g., Chicago has the same effect as the smallest district in the state. In the weighted regression approach, the larger districts have more of an effect on the index than do the smaller districts. The weighted regression may be able to take the place of the Gini Index since it was precisely for this purpose (that is, using the student as the unit of analysis) that the bi-variate Gini was devised in the first place. We have, however, continued to use both specifications of wealth neutrality.

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1. The earliest statement still accessible through ERIC is ED 078 551 entitled, <u>Definition, Measurement, and Application of the Concept of Equalization in School Finance</u>, 1972, Illinois State University by G. Alan Hickrod, Ramesh B. Chaudhari, and Tse-Hao Tcheng.

2. See for example: Berne, Robert and Leana Stiefel, <u>A Methodological Assessment of Educational Equity and Wealth Neutrality Measures</u>, 1978, Education Finance Center, Education Commission of the States, Denver, Colorado; Jordan, K. Forbis and Mary P. McKeown, "Equity in Financing Public Elementary and Secondary Schools" in Guthrie, James W., <u>School Finance Policies and Practices</u>, 1980, Ballinger Publishing Company, Cambridge, Mass.; Berne, Robert and Leana Stiefel, "Alternative Measures of Wealth Neutrality," <u>Education Evaluation and Policy Analysis</u>, Spring 1982.

3. See Appendix A, "Computation of Gini Coefficient" in Hickrod, G. Alan, Ramesh B. Chaudhari, and Ben C. Hubbard, <u>Reformation and Counter-Reformation in Illinois School Finance</u>, 1981, Center for the Study of Educational Finance, College of Education, Illinois State University, Normal, Illinois 61761. Equity index calculations are also spelled out in greater detail in Hickrod, G. Alan, Ramesh B. Chaudhari, and Virginia Lundeen, "Progress toward School Finance Equity Goals in Indiana, Iowa, and Illinois," <u>Journal of Education Finance</u>, Fall 1980.

4. See Schmink, David P., Ronald S. Halinski, G. Alan Hickrod, and Ben C. Hubbard. <u>Conditional Wealth Neutrality As a School Finance Equity Criterion in Illinois</u>, 1979, Center for the Study of Educational Finance, College of Education, Illinois State University, Normal, IL.