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INEQUALITY AND THE REFERENDUM LEVY

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"I've been rich and I've been poor; rich is better."
- Sophie Tucker

Introduction

Minnesota finances public elementary and secondary education by means of a foundation aid program. This program, which was developed by George Strayer and Robert Haig in 1923 to correct educational revenue disparities among school districts, is designed to accomplish two primary objectives (Boroson, et al., p. IV-2). The first purpose is to provide equal educational opportunity for all students in the state by means of "equalized" revenue raised by the program. The second objective is school tax neutrality through a combination of applying a uniform tax rate to an "equalized" assessed tax base and distributing state aid in inverse proportion to district property wealth (Hopeman and Diamond, p. 7).

Under the foundation aid program, districts are guaranteed a minimum level (formula allowance) of revenue per pupil unit for their educational needs. The formula allowance is set at a revenue level that, in principle, provides each district with an adequate educational program. Districts are required to levy a mandated tax rate (basic maintenance levy), and the state provides the differential between the amount that districts raise and the formula allowance. The funding formula for determining state aid is:

$$\text{District State Aid} = \left(\text{Formula Allowance} \times \text{Pupil Units}\right) - \left(\text{Basic Maintenance Levy} \times \text{Equalized Assessed Property Valuation}\right)$$

The funding formula allocates state aid inversely to district property wealth. Districts with relatively low property wealth raise a smaller portion of the formula allowance than more affluent districts and therefore qualify for more state aid. If all educational funds were allocated on the basis of the foundation aid formula, each district would have equal revenue per pupil unit and the program would adhere to the principle that equal effort deserves equal reward. However, forcing all districts to levy only the basic maintenance levy would be highly restrictive and perhaps politically infeasible.

Districts may qualify for and use several additional levies. Two of these levies, the referendum and discretionary levies, are examined in

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this study. The discretionary levy may be adopted by a local school board, subject to refutation by petition and vote of the local citizenry. The discretionary levy is equalized. Districts that use this levy are assured equal revenue per pupil unit for the same tax rate. For the 1979-80 school year, the discretionary levy was fixed at one-half mill. Districts using the levy were guaranteed $27.50 per pupil unit. In the 1980-81 school year, districts may increase their discretionary levy to one mill and will be assured $64.48 per pupil unit per mill.[1/] The size of the discretionary levy is set by the state, and districts have no choice other than to reject or adopt it.

The referendum levy is not equalized. Districts adopting this levy are free to levy an unlimited amount of additional mills against their tax base and retain all revenue for educational purposes. Some people argue that allowing supplements to the foundation aid program in the form of these add-on levies, sometimes called "local leeway", encourages innovation and change within the educational system. However, others argue against the add-on levies due to the variations created in expenditures per pupil among districts. These differences tend to be particularly large when levies are not equalized and not restricted to a specific range of additional mills, e.g., Minnesota's referendum levy. Moreover, several states have invalidated their educational finance programs that allow for revenue disparities among districts because they contend that they violate the Equal Protection clause of the Fourteenth Amendment.

This study examines whether or not the referendum levy generates revenue disparities among school districts. More specifically, we hypothesize that if the referendum levy generates inequalities in school finance, a positive relationship will exist between: (1) district property wealth and use of the referendum levy; (2) district property wealth and the size of the referendum levy; and (3) district property wealth and revenue raised by the referendum levy. The discretionary levy is included throughout the analysis because, being equalized, it provides a relevant contrast to the referendum levy. The paper is divided into four parts. The first section is a brief overview of the constitutional validity of finance schemes that allow for revenue disparities among school districts. The second section discloses the findings of the analysis. The design of the study and various tests regarding the referendum and discretionary levies are covered in this section. The third section introduces several alternative methods of power equalizing the referendum levy. This section includes three alternative schemes to demonstrate the consequences of power equalization on district revenue and state costs. The final section is a summary of the study.

1/ Each district with an EARC/pupil unit sufficiently large to yield more than the guaranteed funds at the stipulated mill rates must reduce its discretionary levy so it raises only $27.50 per pupil unit in 1979-80 and $64.48 in 1980-81.

Constitutional Overview of Equal Protection and School Finance Programs

The responsibility for selecting and implementing educational finance policy in the United States is left primarily to the states. This right was given to the states by the Tenth Amendment to the U.S. Constitution which states: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States, respectively, or the people." Since education is not explicitly contained in the U.S. Constitution, the states view their right as an inherent power safeguarded by the Tenth Amendment. The majority of constitutional cases reviewed by the U. S. Supreme Court have affirmed this principle.

The Minnesota constitution adheres to the philosophy that education is solely a function of the state. Article XIII, section 1 of the state constitution declares that:

> "The stability of a republican form of government depending mainly upon the intelligence of the people, it is the duty of the Legislature to establish a general and uniform system of public schools. The Legislature shall make such provisions by taxation or otherwise as will secure a thorough and efficient system of public schools throughout the state."

Moreover, a historical examination of Minnesota Supreme Court cases reveals that this principle is upheld.[2/] Thus, it is uniformly recognized that educational policy making is a state function.

The issue of whether or not school finance programs may allow revenue disparities among school districts is unresolved. The critical issue that remains unsettled is whether educational finance formulas that produce significant variations in revenue among districts deny districts equal protection guaranteed by the Fourteenth Amendment. In Brown v. Board of Education (1954) the U.S. Supreme Court ruled that revenue raised by state finance schemes "must be accorded to all on equal terms". However, little consensus exists as to the literal interpretation of the judicial "equal".

In McInnis v. Ogilvie (1969), the U.S. Supreme Court held that finance policies that allowed for revenue disparities are not in violation of the Fourteenth Amendment. The Court rejected the plaintiff's contention that the method of financing education in Illinois failed to provide each child equal opportunity for education. The Court presented two reasons for their decision. First, the Fourteenth Amendment does not require the disbursement of educational revenue solely on the grounds of the educational needs of pupils. Second, there are no "discoverable and manageable standards" that may be applied to this issue to form criteria to test its constitutional

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2/ The following cases serve to illustrate this point: State ex rel. Smith v. City of St. Paul (1914), State v. Delaware Iron Co. (1924), State ex rel. Board of Education of City of Minneapolis v. Erickson (1933), and State ex rel. Klimek v. School District No. 76, Otter Tail County (1939).

validity. The second point is extremely important to the entire issue. The "needs" rationale offered by the plaintiff is what the Court rejected. In fact, some argue that McInnis was not much of a setback for supporters of the plaintiff's position because "the reality of hope for positive action from the Supreme Court remains largely a function of the development of a satisfactory rationale" (Coons, et al., p. 315).

In 1970, the California Supreme Court rendered a decision in Serrano v. Priest that was directly in conflict with McInnis. The issue set forth in Serrano holds that the quality of public education may not be "a function of the wealth of ... (a pupil's) parents and neighbors" (Garms, et al., p. 217). Finance programs that base educational revenue on the wealth of districts violate the Equal Protection clause of the Fourteenth Amendment. However, the Serrano doctrine applied only to California.

Soon after Serrano, many state courts invalidated their school finance programs on similar grounds. Minnesota was one of these states. In Van Dusartz v. Hatfield (1971) a U.S. District Court ruled that Minnesota's school finance program was in violation of the Fourteenth Amendment. U.S. District Judge Miles Lord clearly illustrated how revenue raised by the Minnesota program was a function of district wealth. The funding formula attempted to aid every district by guaranteeing each $404 per pupil (formula allowance) if its tax rate was at least 20 mills. If a district taxed at 20 mills and did not raise the entire formula allowance, the state paid the difference. If a district taxed at 20 mills and raised over the formula allowance, it was allowed to use the excess for educational expenditures. In addition, the formula provided a uniform grant of $141 per pupil irregardless of district wealth. This grant only aided those districts that raised over the formula allowance because the $141 minimum pupil guarantee was included as part of the equalization aid given to districts raising less than the formula allowance. Hence, the abolition of the uniform grant would only hurt the wealthy districts raising funds in excess of the formula allowance. In Judge Miles Lord's words:

> "To sum up the basic structure, the rich districts may and do enjoy both lower tax rates and higher spending. A district with $20,000 assessed valuation per pupil and a 40 mill tax rate on local property would be able to spend $941 per pupil; to match that level of spending the district with $5,000 taxable wealth per pupil would have to tax itself at more than three times that rate, or 127.4 mills." (Mazzoni, p. 49).

The plaintiffs withdrew their suit because the legislature was in special session drafting a new finance program (Collins and Johnson, p. 160).

Since many state courts were challenging the McInnis decision, the U.S. Supreme Court once again considered this issue. The U.S. Supreme Court invalidated many of the state court decisions, including Serrano, in San Antonio Independent School District v. Rodriguez (1973). The Court rejected the Serrano doctrine as having any effect on federal law, stating that the issue of equalization in school finance is a state matter.

Since Minnesota has acted on this matter via Van Dusartz, legal precedent has been established for the state. Yet the U.S. Supreme Court's stand on equalization still remains somewhat vague. If the Van Dusartz decision applies in Minnesota today and if the referendum levy disequalizes school revenue among districts, there appear to be legal grounds that the levy should be changed.

Design of the Study

Depending upon specific definitions, Minnesota has approximately 437 school districts. Of these, 431 districts were used in the analysis. The remaining six districts were not included because they differed from the majority of the districts. Nett Lake in St. Louis County, Pine Point in Becker County, and Winsted in McLeon County were not included because they do not operate secondary schools. Secondary students in these districts are transported to other districts for education. Franconia in Chisago County, and Prinzburg in Kandiyohi County were not included because they do not operate schools. Students in these districts are enrolled in schools outside their home districts. Finally, Red Lake in Beltrami County was not included because approximately 99 percent of its property is tax exempt.

The remaining 431 districts were arranged from lowest to highest with respect to property wealth per student. Property wealth, in this contect, is defined as the 1979 Equalized Assessed Review Committee (EARC) property valuation. The school district data were obtained from "School District Profiles", a Minnesota Department of Education publication. In order to compare districts, property wealth was divided by a measure of the number of pupils attending school. The pupil unit measure used in this study is a particular form of 1978-79 Average Daily Membership, which we will call ADM*. ADM* counts every pupil in kindergarten as ½ of a daily membership because they attend school on a half time basis. Pupils in elementary and secondary schools (grades 1-12) are counted as 1 daily membership because they attend school on a full time basis. Thus, Average Daily Membership* for each district is computed by the following formula:

$$ADM^* = 0.5K + E + S^{3/}$$

where K = pupils enrolled in kindergarten
E = pupils enrolled in grades 1-6
S = pupils enrolled in grades 7-12.

After ranking the districts from lowest to highest, the districts were divided into 10 classes with equal property wealth intervals. Four districts-Delavan in Faribault County, Kennedy and Humboldt-St. Vincent in Kittson County, and Becker in Sherburne County were placed in a special class (Class XI) because their property wealth was substantially higher than the other districts. The number of districts in each class is displayed in

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3/ ADM* differs from ADM and total pupil units. We used ADM* as a deflator because the actual number of pupils in school membership was desired rather than a policy weighted pupil measure, i.e., ADM or total pupil units.

Graph 1 and conforms to a lognormal distribution with a mean EARC/ADM* of $33,327.

Analysis[4/]

Relationship Between the Probability of Using the Referendum Levy and District Property Wealth

The percentage of districts that adopted the referendum levy (1979-80) was calculated for each district class. The results are presented in Graph 2. For Classes I to X, a generally positive relationship between property wealth and use of the levy holds. Class XI is somewhat lower than Class X, however, the number of districts in Class XI is small (4) and these districts differ from others in their extremely large EARC/ADM*. Therefore, one should be cautious about making generalizations regarding a negative relation through Classes X and XI. A positive relationship between property wealth and use of the referendum levy is expected because districts with relatively higher property values are able to raise more revenue than those with less property wealth at a given tax rate. With this economic incentive, more affluent districts should have a greater probability of adopting referendum levies.

In order to confirm these findings by a more rigorous statistical method, the Kolmogorov Goodness of Fit Test was used. The procedures for this test are the following. First the 431 districts were ranked according to EARC/ADM*(W_i) so that $W_1 < W_2 \ldots < W_{431}$. For each district, a 1 was assigned if it used the referendum levy and a 0 was assigned to it if it did not. A cumulative distribution function for use of the levy was defined as:

$$CUR_j = \left(\sum_{i=1}^{j} UR_i\right)/CUR_N \text{ for } j = 1, 2, \ldots, 431$$

where $$UR_i = \begin{cases} 1 \text{ if district used referendum levy} \\ 0 \text{ if district did not use referendum levy} \end{cases}$$

$$CUR_N = \sum_{i=1}^{431} UR_i .$$

Under the null hypothesis of no impact of district property wealth on the use of the referendum levy, CUR, call it CUR*, would reflect an underlying uniform distribution, so

$$CUR_J^* = \frac{j}{N} .$$

The distribution function CUR*, adhering to the null hypothesis of no

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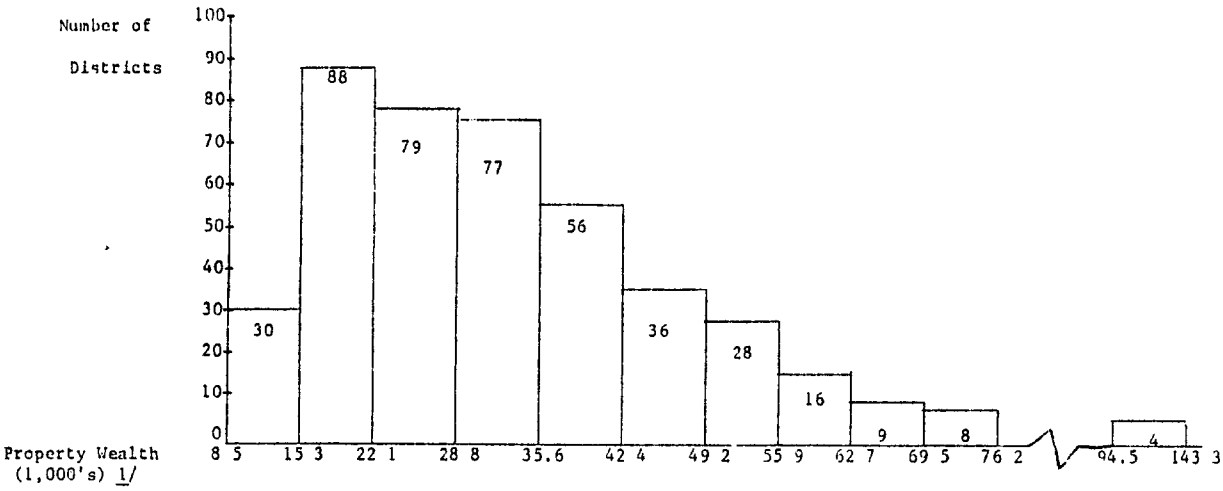
4/ An unpublished Ph.D. dissertation by Gayden Fisher Carruth performed independently from this analysis and entitled Minnesota's Foundation Program: Projected Effects of the Distribution of Selected Maintenance Revenue Upon Fiscal Equity, For Fiscal Years 1980-1983 arrived at similar results with respect to the referendum and discretionary levies using different methodology.

Graph 1

Distribution of Districts by Property Wealth per Student (total of 431 districts)

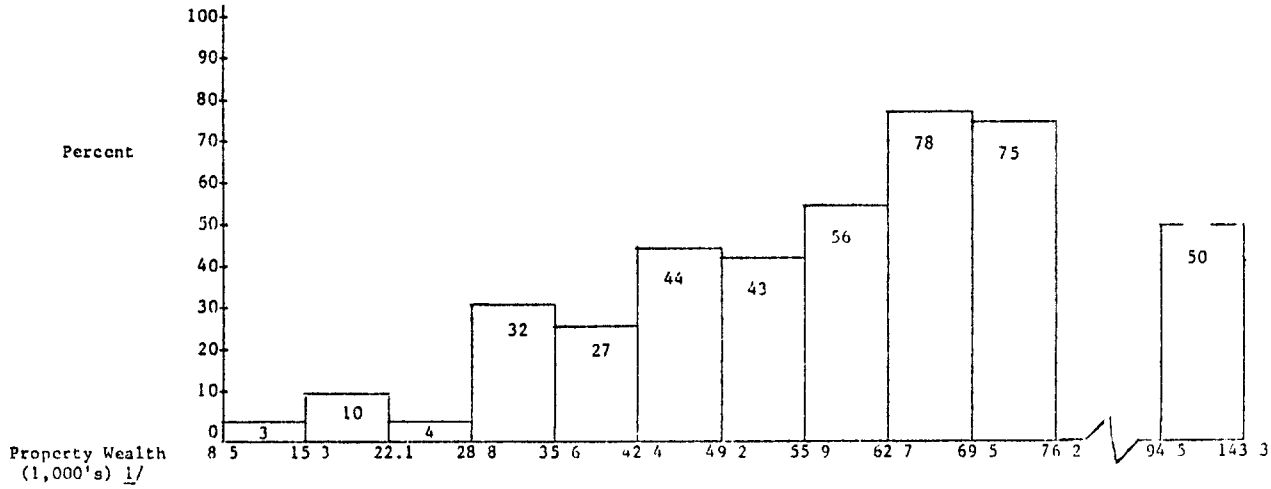


Class	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
ADM* (1,000's)	33 7	205.3	186.2	116 2	80 2	75.7	61 7	6 1	5 6	2.0	1 3

1/ 1979 EARC/1978-1979 ADM*

Graph 2

Percent of Districts in Each Class Using the Referendum Levy



Class	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Districts in Each Class	30	88	79	77	56	36	28	16	9	8	4
ADM* (1,000's)	33.7	205.3	186 2	116 2	80.2	75.7	61 7	6.1	5.6	2 0	1.3

1/ 1979 EARC/1978-1797 ADM*.

relationship between district property wealth and adoption of the levy, is illustrated in Graph 3 along with the CUR distribution. The test statistic used to measure the discrepency between CUR and CUR*, as suggested by Kolmogorov (1933), is the largest vertical distance between the two distributions (Conover, p. 294). The maximum difference occurs at the 197th district and is 0.33. The corresponding critical value for a one sided test (i.e., H_o: CUR = CUR* H_A: CUR < CUR*) is 0.0732 at the 1 percent significance level. Since 0.33 > 0.0732, the null hypothesis of no impact of district property wealth on the use of the referendum levy is rejected. Thus, the Kolmogorov test confirms the initial graphical finding that a positive relationship exists between district property wealth and use of the referendum levy.

Relationship Between the Magnitude of the Referendum Levy and District Property Wealth

In the previous section, it was found that districts with higher property wealth have a greater probability of using the referendum levy than districts with lower property values. However, this is only one of the determinants of revenue raised by the referendum levy. The other determinant is the actual magnitude of the levy. This section addresses the issue of whether there is a positive relationship between the size of the referendum levy and district property wealth, using both a graphical approach and the Kolmogorov test.

The average referendum levy was estimated for each class. The mill rates for each district were computed by dividing the total revenue raised via the 1979-80 referendum levy by the 1979 EARC valuation. This converted the revenue into mill rates. A simple unweighted average mill rate for all districts in each class was calculated. Districts that did not use the levy were included in the average since we are concerned with equity among all pupils and not only among pupils in districts with levies. The distribution is displayed in Graph 4. The general trend supports the hypothesis that there is a positive association between the size of the referendum levy and district property wealth. Disparities in the magnitude of the levy among classes are substantial (e.g., Classes I and IX).

The Kolmogorov test was again employed in order to give more concrete support to the intuitive graphical approach. A cumulative distribution function for the size of the levy was defined as:

$$CMR_j = \left(\sum_{i=1}^{j} MR_i\right)/CMR_N \text{ for } j = 1, 2, \ldots, 431$$

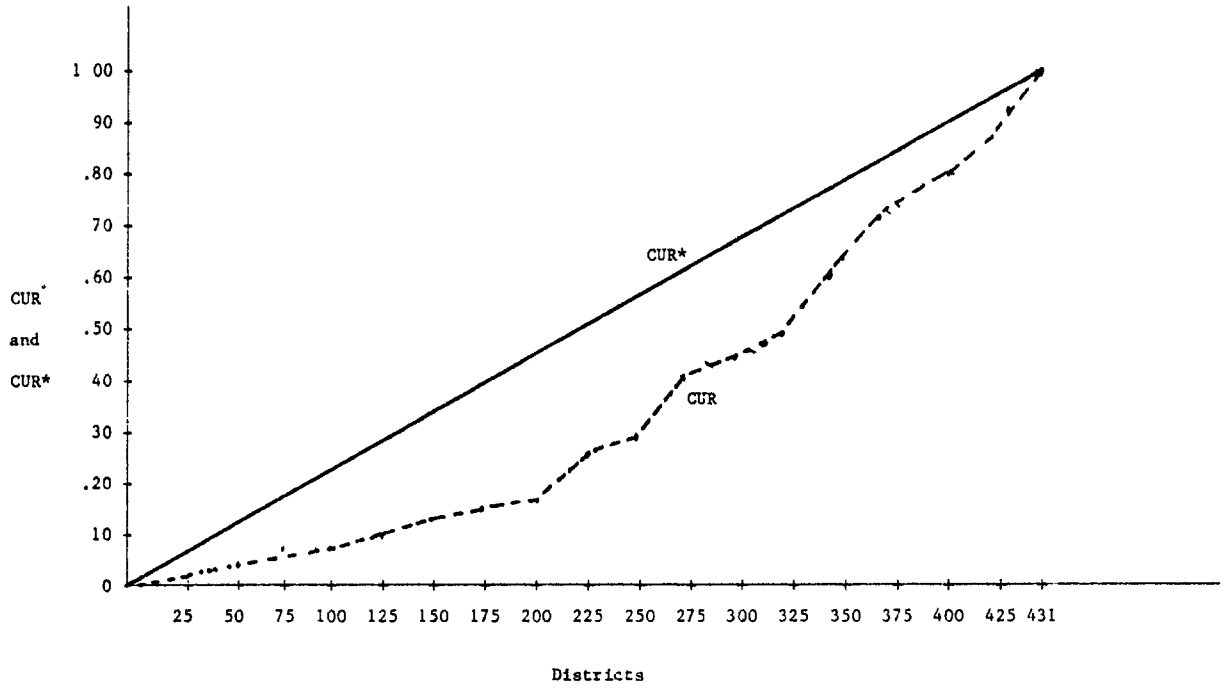
where MR_i = size of referendum levy (mills)

$$CMR_N = \sum_{i=1}^{431} MR_i .$$

Under the null hypothesis of no impact of district wealth on size of the referendum levy, CMR, call it CMR*, would reflect an underlying uniform distribution, so

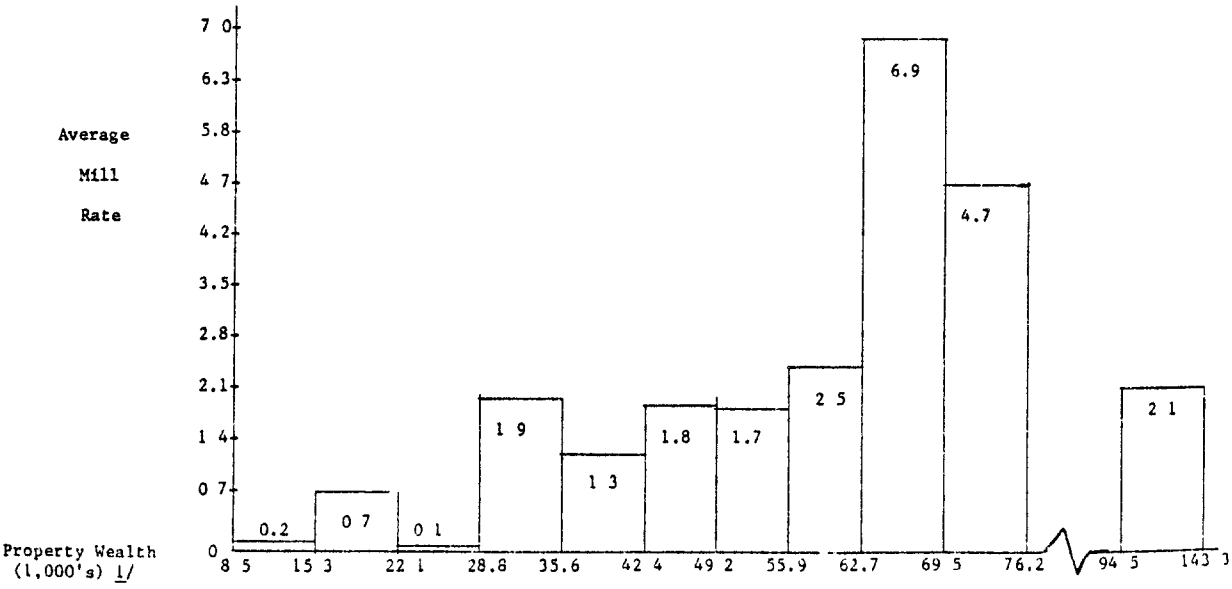
Graph 3

The Kolmogorov Goodness of Fit Test Applied to the Hypothesis of no Impact of District Property Wealth on Use of the Referendum Levy



Graph 4

Average Size of the Referendum Levy in Each Class



Class	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Districts in Each Class	30	88	79	77	56	36	28	16	9	8	4
ADM* (1,000's)	33 7	205.3	186 2	116 2	80 2	75 7	61.7	6 1	5 6	2 0	1.3

1/ 1979 EARC/1975-1979 ADM*

$$CMR_j^* = \frac{j}{N} .$$

The two distribution functions are presented in Graph 5. Similar to the Kolmogorov test employed in the previous section, the test statistic is the maximum difference between the two cumulative functions. The maximum difference occurs again at the 197th district and is 0.325. The corresponding critical value for a one sided test is 0.0732 at the 1 percent significance level. Since 0.325 > 0.0732, the null hypothesis of no impact of district property wealth on the magnitude of the referendum levy is rejected. Therefore, the Kolmogorov test is consistent with the intuitive graphical conclusion of a positive relationship between property wealth and size of the referendum levy.

Relationship Between Revenue Raised by the Referendum Levy and District Property Wealth

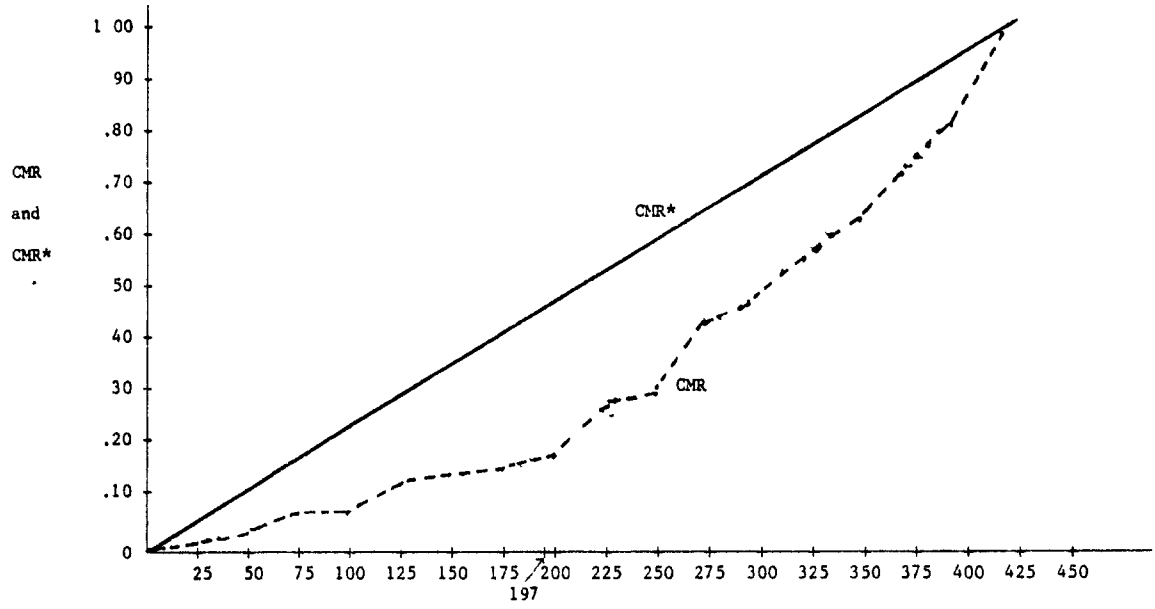
The amount of revenue each class raises via the referendum levy is perhaps the most crucial issue examined in the analysis because it will reveal whether the levy causes significant revenue inequities among districts.[5/] The procedure used for estimating the revenue raised per student in each class by the referendum levy is the following. First the average EARC/ADM* was calculated for each district class (see Graph 6). These values were multiplied by the average referendum tax rate for each class (see Graph 4); recall that the tax rate for each district was computed by the EARC wealth base rather than the local unadjusted property base. The resulting product was used as an estimate of the average revenue raised per student (ADM*) by the referendum levy for each class.[6/] The results in Graph 7 demonstrate a significant positive relationship between district property wealth and the amount of revenue per student raised by the referendum levy. On average, districts in Class IX raise over 200 times as much revenue per student as districts in Class I. Of course, Class IX has a higher average levy, as well as a greater percentage of districts using the levy, but if we assume that all classes tax at the same rate, the results are not drastically altered. Graph 8 shows the positive relationship between property wealth and revenue raised via the referendum levy when all districts tax at the same rate. The revenue raised by each class ranges from $17.12 to $144.85 per ADM*. In short, the referendum levy would generate unequal revenues per student even if taxpayers in all districts chose to tax themselves at the same rate.

5/ There are several measures of equity in an educational finance context. Throughout this analysis, equity is defined in the absolute sense. Absolute equity, as Collins and Johnson define it, "corresponds to a simple notion of equality of educational opportunity: equal expenditures per pupil". For other measures of equity, e.g., wealth neutrality and power equity, see Collins and Johnson, pp. 161-163.

6/ In order to understand the complete process of adopting and implementing the referendum levy, consider the following example. Suppose citizens in District A approve a referendum levy in a special election held in 1979. The revenue raised by the levy for the 1980-81 school year is based on property values (EARC) for the 1978 calendar year. Thus, the time sequence involves a two year lag. When the levy is certified in 1979 payable 1980, the tax base is the 1978 EARC property valuation and the revenue is applicable for the 1980-81 school term.

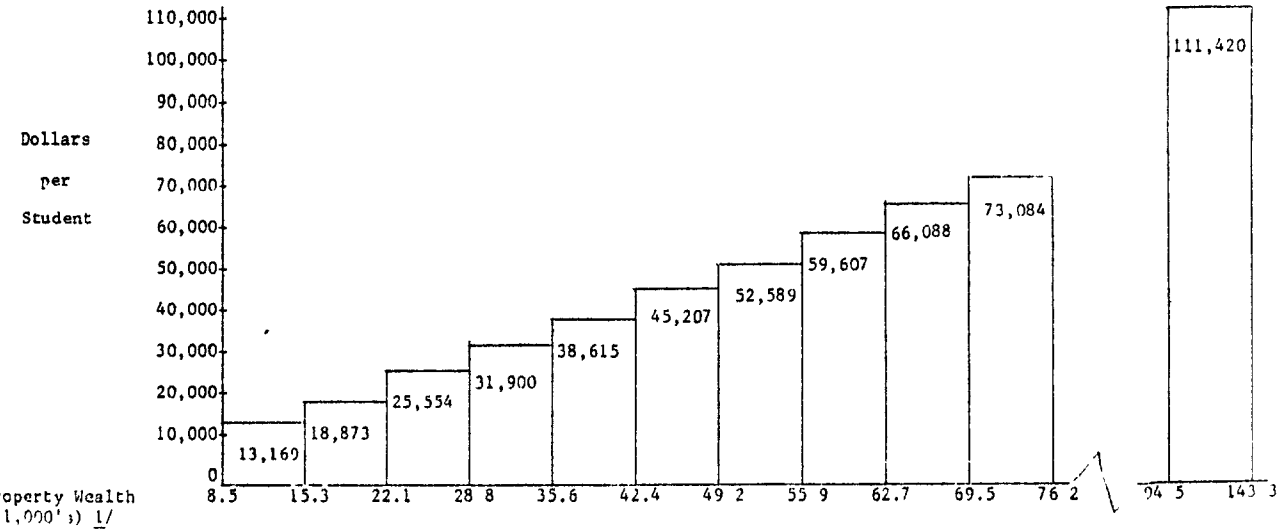
Graph 5

The Kolmogorov Goodness of Fit Test Applied to the Hypothesis of No Impact of District Property Wealth on Size of the Referendum Levy



Graph 6

Average Wealth per Student (EARC/ADM*) for Each Class

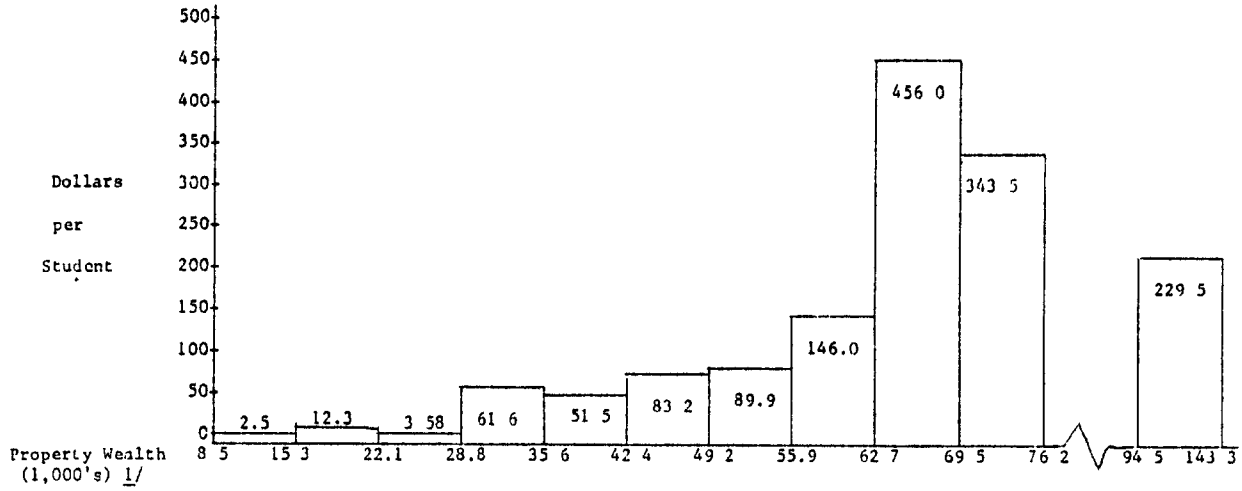


Property Wealth (1,000's) 1/	8.5	15.3	22.1	28 8	35.6	42.4	49 2	55 9	62.7	69.5	76 2	94 5	143 3
Class	I	II	III	IV	V	VI	VII	VIII	IX	X		XI	
Districts in Each Class	30	88	79	77	56	36	28	16	9	8		4	
ADM* (1,000's)	33 7	205 3	186 2	116.2	80 2	75.7	61.7	6 1	5 6	2 0		1 3	

1/ 1979 EARC/1978 1979 ADM*

Graph 7

Average Revenue Raised per Student by the Referendum Levy for Each Class
(Average Referendum Levy Mill Rate Times Average EARC/ADM* for Each Class)



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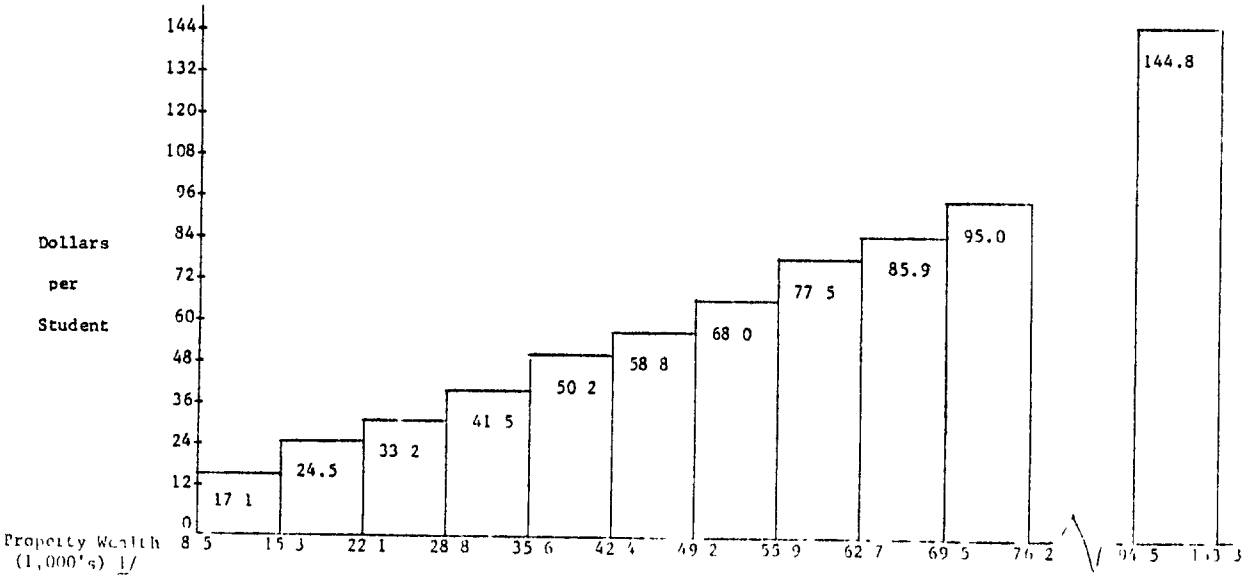
Districts in Each Class	30	88	79	77	56	36	28	16	9	8	4
ADM* (1,000 s)	33 7	205.3	186.2	116 2	80 2	75.7	61.7	6 1	5.6	2 0	1 3

1/ 1979 LARC/1978-1979 ADM*

Graph 8

Distribution of Revenue per Student Derived by the Referendum Levy Assuming an Equal Tax Rate for All Classes



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ADM* (1,000's)	33 7	205.3	186.2	116 2	80.2	75 7	61 7	6 1	5 6	2 0	1 3

1/ 1979 LARC/1978-1979 ADM*

Relationship Between the Probability of Using the Discretionary Levy and District Property Wealth

The percentage of districts that use the discretionary levy was computed for each class. A negative or random association between district property wealth and use of the discretionary levy is expected instead of the positive relationship observed for the referendum levy. The rationale for this behavioral expectation is that all districts are able to raise the same revenue at equal tax rates. Consequently, use of the levy is neutral with respect to property wealth. There is an economic incentive for lower property wealth districts to use the discretionary levy rather than the referendum levy. The discretionary levy, in effect, increases the tax base of poorer districts to a level that is higher than they actually have because it is equalized. On the other end of the spectrum, there is an economic disincentive for districts with relatively high property values to use the discretionary levy instead of the referendum levy. These districts are forced to lower their discretionary levies to a level where the yield is equal to the fixed revenue per student. Thus, one might observe a slight negative relationship between property wealth and use of the discretionary levy. The data for Minnesota districts are shown in Graph 9. This graph confirms that a negative relationship exists between district property wealth and use of the levy. The relationship appears to be smoother or more consistent than that observed for the referendum levy, but not as pronounced as the referendum levy relationship.

Once again the Kolmogorov test was used to confirm the graphical conclusion. The cumulative distribution function was defined as:

$$CUD_j = \left(\sum_{i=1}^{j} UD_i\right)/CUD_N \text{ for } j = 1, 2, \ldots, 431$$

where UD_i = 1 if district used discretionary levy
0 if district did not use discretionary levy

$$CUD_N = \sum_{i=1}^{431} UD_i .$$

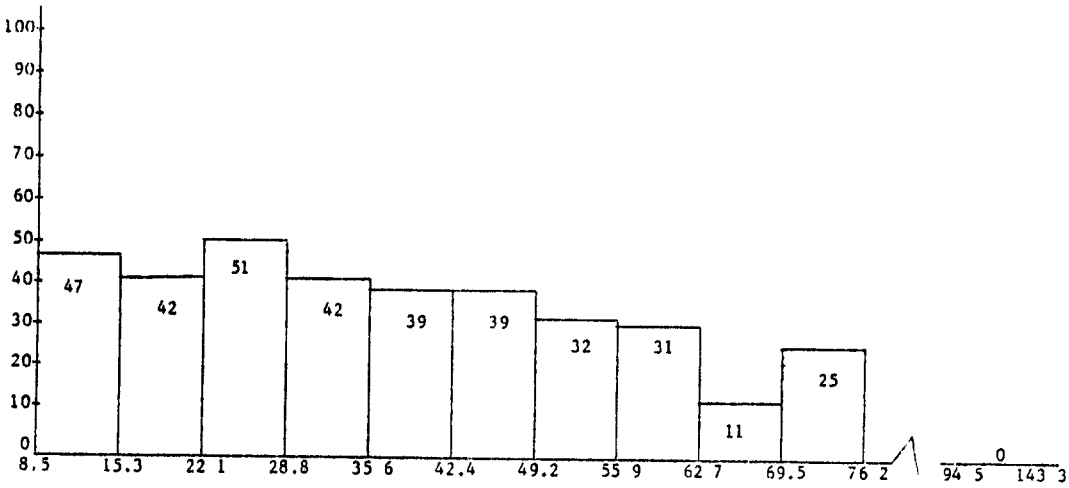
Under the null hypothesis of no impact of district property wealth on use of the discretionary levy, CUD, call it CUD*, would reflect an underlying uniform distribution, so

$$CUD_j^* = \frac{j}{N} .$$

The two distribution functions are illustrated in Graph 10. The test statistic, which is the maximum difference between CUD and CUD*, is -0.094 and occurs at the 295th district. The critical value for a one sided test is 0.0732 at the 1 percent significance level. Since $|-0.094| > 0.0732$, the null hypothesis of no impact of district property wealth on use of the discretionary levy is rejected. Thus, the Kolmogorov test is consistent with the intuitive graphical finding that there is a negative relationship between property wealth and use of the levy.

Graph 9

Percent of Districts in Each Class Using the Discretionary Levy



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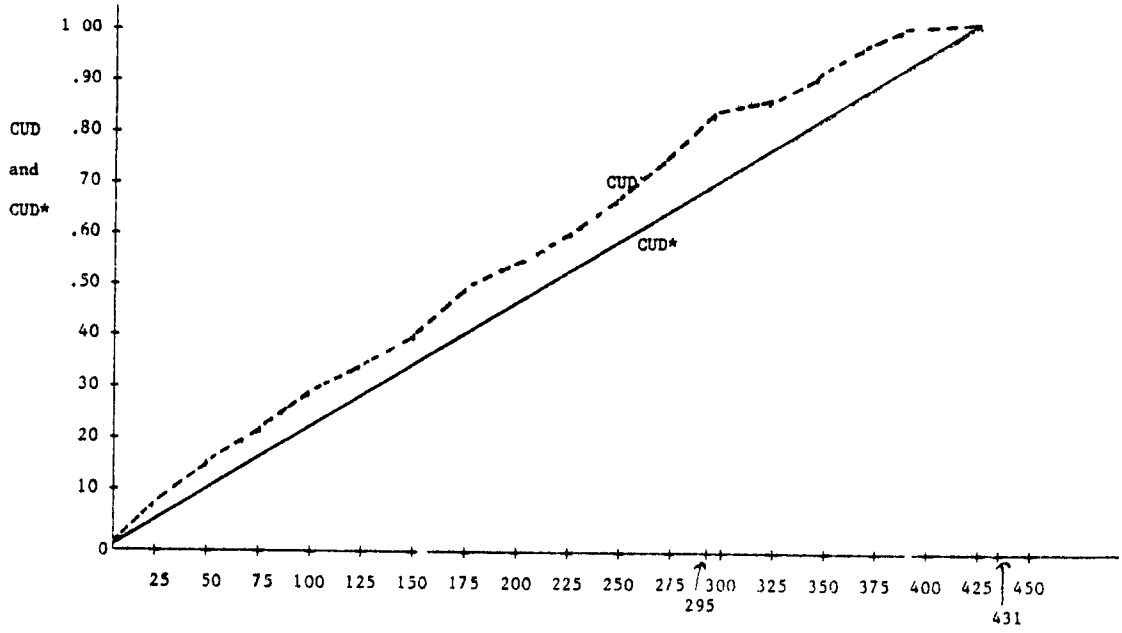
1/ 1979 EARC/1978-1979 ADM*

Graph 10

The Kolmogorov Goodness of Fit Test Applied to the Hypothesis of No Impact of District Property Wealth on Use of the Discretionary Levy



Districts
(in rank order according to EARC/ADM*)

Relationship Between the Magnitude of the Discretionary Levy and District Property Wealth

The average discretionary levy was calculated for each class. The mill rate for each district was computed by dividing the total revenue raised via the 1979-80 discretionary levy by the 1979 EARC valuation. This converted the revenue into mill rate. However, unlike the procedure used for the average referendum levy computation, only the districts using the discretionary levy were included in the unweighted average at this stage. Since the discretionary levy is equalized and fixed at ½ mill for the 1979-80 school year, all districts levied ½ mill or, for the districts with EARC/ADM* greater than $55,000, levied up to $27.50 per student. Once the average levy was determined, the rest of the districts not using the discretionary levy were averaged into each class, thus making the final averages consistent with the averages computed for the referendum levy. The results are shown in Graph 11 and seem to reveal a negative relationship between the size of the discretionary levy and district property wealth. The Kolmogorov test is needed to determine more rigorously if the relationship is actually negative.

The cumulative distribution function was defined as:

$$CMD_j = \left(\sum_{i=1}^{J} MD_i \right) / CMD_N \text{ for } j = 1, 2, \ldots, 431$$

where MD_i = size of discretionary levy (mills)

$$CMD_N = \sum_{i=1}^{431} MD_i .$$

Under the null hypothesis of no impact of district property wealth on average mills levied for the discretionary levy CMD, call it CMD*, would reflect an underlying uniform distribution, so

$$CMD_j^* = \frac{J}{N} .$$

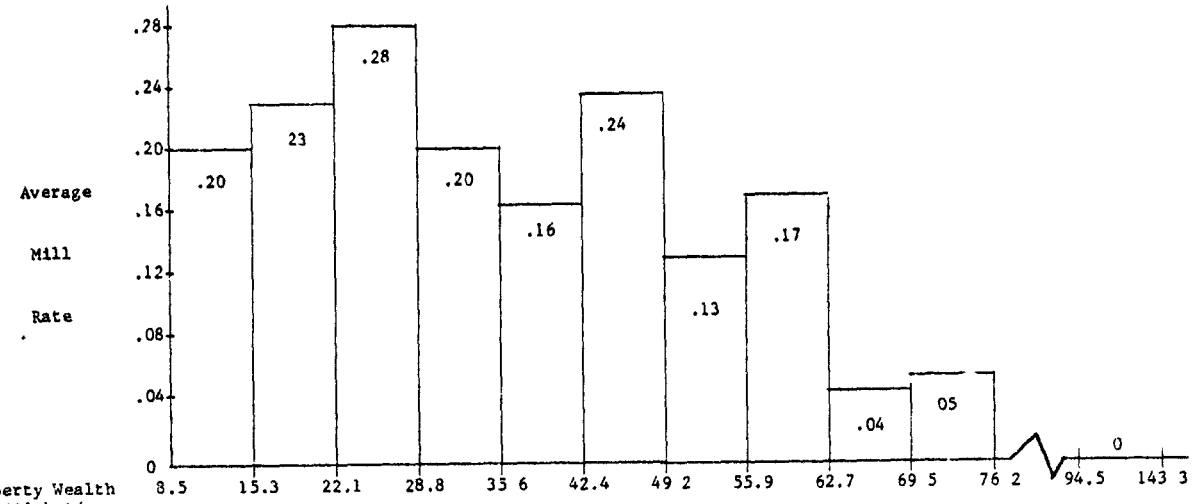
The two distribution functions are shown in Graph 12. The test statistic is equal to -0.099 which occurs at the 295th district. Since we are unsure of the direction of the alternative hypothesis (i.e., positive or negative relationship), a two sided test was used rather than a one sided test. The critical value for a two sided test is 0.0785 at the 1 percent significance level. Since $|-0.099| > 0.0785$ one must reject the null hypothesis of no impact of district property wealth on the average mills levied by the discretionary levy. Therefore, we conclude that there is a relationship between district property wealth and magnitude of the discretionary levy and, furthermore, the relationship is negative. It is important to point out that the last three classes are primarily responsible for making the relationship negative under the Kolmogorov test.

Relationship Between Revenue Raised by the Discretionary Levy and District Property Wealth

The procedure for calculating the revenue per student raised by the discretionary levy for each class is the following. First, the average

Graph 11

Average Size of the Discretionary Levy in Each Class



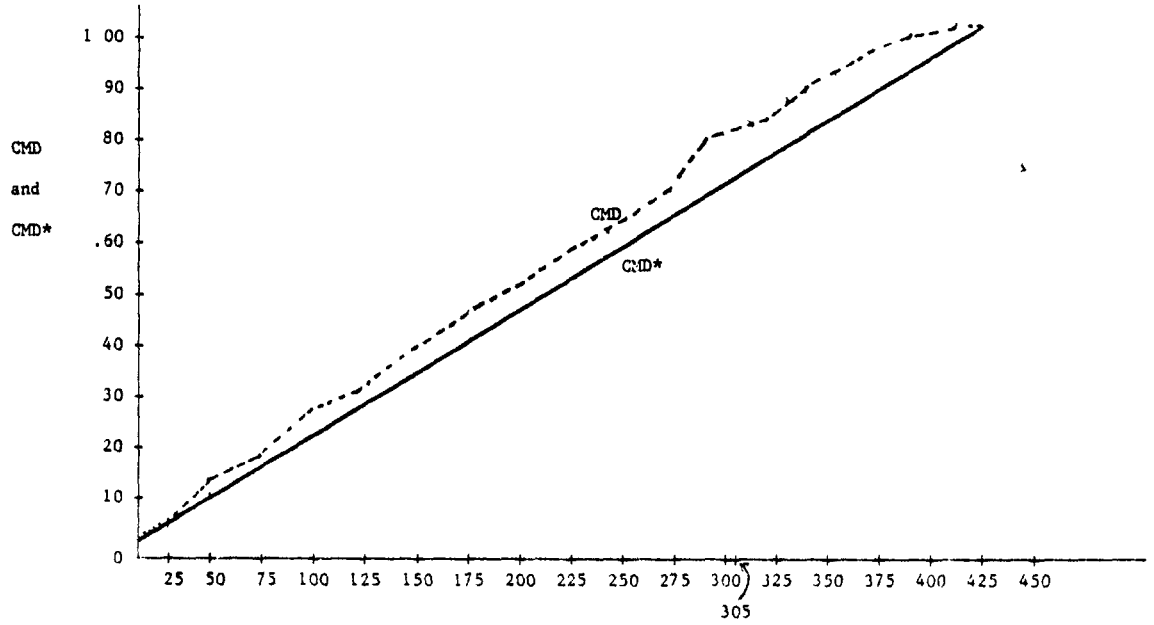
Property Wealth (1,000's) 1/

Class	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Districts in Each Class	30	88	79	77	56	36	28	16	9	8	4
ADM* (1,000's)	33 7	205 3	186 2	116 2	80.2	75.7	61 7	6.1	5.6	2.0	1 3

1/ 1979 EARC/1978-1979 ADM*

Graph 12

The Kolmogorov Goodness of Fit Test Applied to the Hypothesis of No Impact of District Property Wealth on Size of the Discretionary Levy



Districts

(in rank order according to EARC/ADM*)

discretionary levy for districts using the levy was computed for each class. The average discretionary levy was then multiplied times the average property wealth for districts using the discretionary levy in each class. The local share exhibited a positive relationship between district property wealth and the amount of locally raised revenue. The state share exhibited a negative relationship between district property wealth and state aid. Next, the remainder of the districts (those that did not use the discretionary levy) were included in the average. The results are presented in Graph 13. The average revenue raised by each class does not appear to be strongly related to district property wealth, although there is some indication of a weak inverse relationship. An equalized levy neutralizes wealth and thereby makes educational revenue solely a function of district tax effort. In other words, any district that uses the discretionary levy at the same level as another is guaranteed the same revenue per student regardless of its property wealth.

Summary of the Analysis

There is a positive relationship between district property wealth and use of the referendum levy. In addition, there is a negative relationship between district property wealth and use of the discretionary levy. These results support our hypothesis that districts will be inclined to use the levy which yields the most revenue per student. More specifically, higher property wealth districts tend to use a levy that is not equalized (referendum levy) and lower property wealth districts are more apt to use a levy that is equalized (discretionary levy). The rationale for this is straightforward: districts with high property values have no particular incentive to utilize the discretionary levy because they do not qualify for state aid (assuming their EARC/ADM* is greater than $55,000) and may raise more with the unrestricted referendum levy; whereas, districts with low property values are encouraged to use the discretionary levy because they receive state aid and thus are able to raise as much revenue as any other district in the state is able to raise by the discretionary levy.

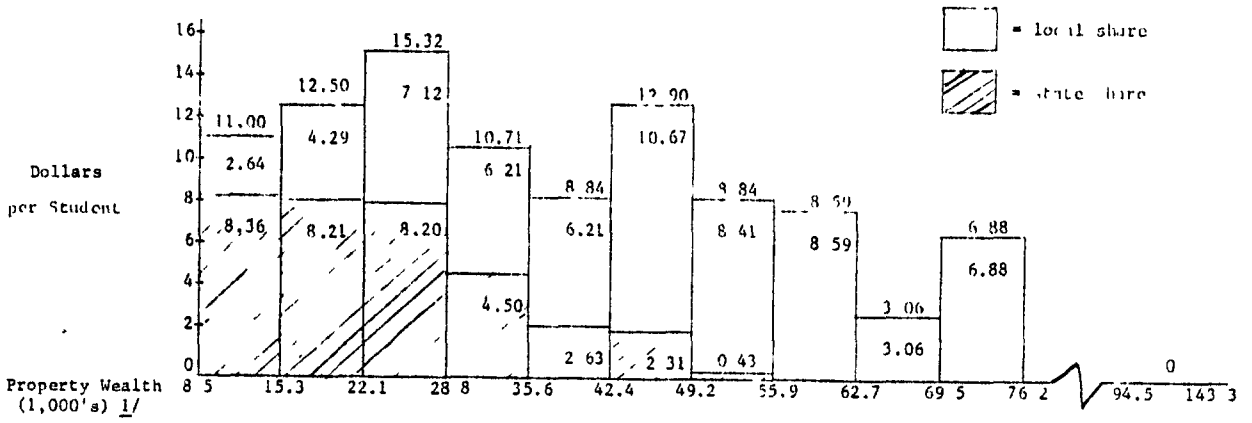
The magnitudes of these levies are consistent with the above hypotheses. Districts with relatively high property wealth have,on average, larger referendum levies than less affluent districts. Districts with relatively low property wealth have, on average, larger discretionary levies than more affluent districts. The rationale for this phenomenon is identical to that for use of the levies.

Most importantly, a positive relationship exists between district property wealth and revenue acquired via the referendum levy. Districts with relatively high property wealth not only raise more revenue by the referendum levy than the relatively poor districts, but also would be able to raise more revenue by this levy assuming equal taxation rates. In short, wealthy districts enjoy both higher revenue per student and, in some cases, lower tax rates. This is not consistent with the United States District Court ruling in Van Dusartz v. Hatfield.

The revenue per student raised by the discretionary levy is not related to the property wealth of districts. The reason is that this levy is equalized. Consequently, districts are guaranteed equal revenue per student

Graph 13

Total, State, and Local Share of Revenue Raised by the Discretionary Levy



Class	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Districts in Each Class	30	88	79	77	56	36	28	16	9	8	4
ADM* (1,000's)	33 7	205 3	186.2	116.2	80.2	75 7	61 7	6 1	5.6	2.0	1.3

1/ 1979 EARC/1978-1979 ADM*

Table 2

Calculation of Estimated Revenue per Student Raised by the Power Equalized Referendum Levy (PERL) in Districts Classified by Wealth. a/

	Background Data			Estimated Revenue Per Student: PERL Based on Discretionary Levy Participation Rates			PERL Based on a Equal Particialtion Rate (40%)		
Class b/	(1) EARC/ADM* (dollars)	(2) Districts Using Discretionary Levy (percent)	(3) Estimated Size of PERL (mills)	(4) Revenue Raised by PERL (dollars)	(5) Local Share of Expenditures (dollars)	(6) State Aid (dollars)	(7) Revenue Raised by PERL (dollars)	(8) Local Share of Expenditures (dollars)	(9) State Aid (dollars)
I	13,169	46 5	6.0	153 50	37 00	116 50	132 00	31 50	100 50
II	18,873	46.5	6.0	153 50	52.50	101 00	132 00	45.00	87 00
III	25,554	46 5	6.0	153.50	71.00	82 50	132 00	61 50	70 50
IV	31,900	40.0	6.0	132.00	76 50	55 50	132 00	76 50	55 50
V	38,615	40.0	6 0	132.00	93.00	39 00	132.00	92 50	39 50
VI	45,207	40.0	6 0	132 00	108 50	23.50	132 00	108 50	23.50
VII	52,289	32 0	6.0	105.50	100.50	5 00	132.00	125.50	6 50
IX	59,607	32.0	6.0(5 5) c/	105 50	105.50	0	132.00	132.00	0
IX	66,088	18 0	6.0(5.0) c/	60.00	60.00	0	132.00	132.00	0
X	73,084	18.0	6 0(4 5) c/	60.00	60 00	0	132.00	132.00	0

a/ See text for detailed explanation of methodology. figures have been rounded in some cases.

b/ Class XI has not been included because districts in this class did not use the discretionary levy Since the discretionary levy provides the basis for this hypothetical example, there was no basis for determining the size of the PERL for class XI

c/ Classes VIII through X had EARC/ADM* values greater than $55,000 (the guaranteed property valuation per student set by the state) Consequently, if these districts would have levied over the amount of the estimated mill rate (figures not in parentheses), they would have raised over the amount of the guaranteed expenditure level Thus, their levies had to be lowered to a rate consistent with the guaranteed expenditure level The actual lower levy is the figure in parentheses.

for an equal tax effort. In contrast to the referendum levy, the discretionary levy adheres to the Van Dusartz decision and provides an excellent basis for revision of the referendum levy.

Alternatives to the Referendum Levy

Given the inequitable nature of the referendum levy, what are the alternative policies open to decision makers who desire to change this levy? One alternative is to do away with the levy. However, this would eliminate a major part of the foundation aid program's philosophy - local leeway. Equity would be achieved, but at the high cost of a substantial reduction of district choice in determining their school tax rates. Another alternative would be to drop the levy and increase the basic maintenance levy of the foundation aid program. Districts desiring higher revenues than the old formula allowance might find this appealing. However, this policy has the same flaw as the first. A loss of district choice would again be the cost of such a policy change. A third alternative is to power equalize the referendum levy. This would equalize the levy and not necessitate a reduction of district choice. This section examines the consequences of power equalizing the referendum levy. Several examples will be discussed in order to cover a wide range of the possible outcomes of this policy. In order to fully comprehend the results of this alternative policy, a brief explanation of the mechanics of power equalizing will be outlined prior to the various examples.

The Theory of Power Equalizing

In recent years, many states have become dissatisfied with their school finance formulas. The "old" formulas were outdated and, more importantly, failed to achieve equity in educational finance. As a result, many states have turned to the newest alternative - district power equalizing (DPE). There are currently 24 states employing DPE, or a version of it, to finance education (Johnson and Collins, p. 334). Much of the credit for advancing the theory of DPE is given to John E. Coons, William H. Clune III, and Stephen D. Sugarman, who laid the groundwork for DPE in their book, Private Wealth and Public Education (1970).

The mechanics of DPE are quite simple. Districts are guaranteed equal revenue at equal tax effort levels regardless of their property valuation. In essence, all districts have the same property value with respect to raising school revenue. The state establishes a guaranteed property value (GV) that all districts apply their school tax rates to. Thus, if a district's property valuation per pupil is $45,000 and the state's guaranteed property valuation is $55,000 then the district is assured $55,000 times its local tax rate in educational revenue. More generally, the state and local shares are determined in the following manner:

$$\text{Local Share} = r \times PV$$

$$\text{State Share} = r \times (GV - PV)$$

$$\text{Total District Revenue} = (r \times PV) + r \times (GV - PV)$$
$$= r \times GV$$

where r = local school tax rate

PV = district property valuation per pupil

GV = guaranteed property valuation per pupil .

There are two primary advantages of DPE. First, it adheres to the principle of fiscal equity. Revenue raised by districts is solely a function of tax effort rather than wealth. This necessarily requires state aid to be allocated in inverse proportion to district property wealth. Second, it allows each district the freedom to select its own expenditure level for education. Consequently, DPE does not violate the concept of local leeway.

The Consequences of Power Equalizing the Referendum Levy

The consequences of power equalizing the referendum levy are best examined by considering two key effects of such a policy change. The first deals with the effects of DPE with respect to equalizing school revenues. More specifically, how does the distribution of revenue raised by a power equalized referendum levy (PERL) relate to district property wealth? The second consequence to consider is the additional cost to the state due to increased payments in state aid. In this context it is important to note that DPE, in its purest form, has a recapture provision. In other words, districts that have property values per pupil greater than the guaranteed property valuation per pupil set by the state must pay the excess of generated revenues to the state. For example, if a district has a property valuation per pupil of $65,000 and the state's guaranteed property valuation per pupil is $50,000, then if the district decided to levy an additional 5 mills the state and local shares are:

Local Share = 0.005 x $65,000 = $325

State Share = 0.005 x ($50,000 - $65,000) = -$75

Total District Revenue = $325 x (-$75) = $250

or 0.005 x $50,000 = $250

However, the provision of recapture is not included in any DPE program in the United States (Johnson and Collins, p. 334). If recapture is used, state costs may be drastically reduced (theoretically they may be reduced to zero). These two effects (equalization and state costs) will be considered separately.

One reasonable method of developing a PERL schedule is to base it on the current discretionary levy. The discretionary levy for 1979-80 is restricted to ½ mill with a guaranteed spending level of $27.50 per pupil. The proposed PERL schedule would extend the ½ mill limit to 6 mills, with each ½ mill earning $27.50 per pupil. Table 1 depicts such a schedule. This schedule relates the tax level (T) to the guaranteed expenditure level (E) by the following equation:

E = T x $55,000

Table 1

District Power Equalized Referendum Levy Schedule Based on the Discretionary Levy

Tax Level (T) (mills)	Guaranteed Expenditure per Pupil(E) (dollars)
0.5	27.50
1.0	55.00
1.5	82.50
2.0	110.00
2.5	137.50
3.0	165.00
3.5	192.50
4.0	220.00
4.5	247.50
5.0	275.00
5.5	302.50
6.0	330.00

The guaranteed property valuation per pupil is $55,000. Similar to the discretionary levy, it is assumed that there is no recapture provision. Instead, districts with property values per pupil larger than $55,000 are required to decrease their levy to raise only the corresponding guaranteed expenditure level.

In applying the hypothetical PERL schedule to the districts classified by wealth, several assumptions were made. Two different methods were used in estimating the percentage use (participation rates) of the PERL for each class. The first method assumes participation rates for the PERL identical to those observed for the discretionary levy. This assumption is justified on the contention that since both levies are equalized, there should be some correlation between participation rates for both levies. However, the discretionary levy is limited to only ½ mill, whereas the PERL is extended to 6 mills. Consequently, one should expect a variation in participation rates for the two levies. Moreover, if the PERL is the only means to raise additional revenue, one should expect to find that higher property wealth districts would have larger participation rates than they now have in the case of the discretionary levy. Thus, the second method assumes equal use of the PERL by each class of districts.

Table 2 (on page 18) summarizes the calculations performed in estimating the average revenue raised by the PERL for each class. The following outline is a detailed explanation of the methodology.

a. All districts using the PERL were assumed to levy the maximum - 6 mills (see column 3 in Table 2). The rationale for this assumption is based on the discretionary levy formula. All districts using the discretionary levy must levy a fixed amount. Therefore, even though the PERL schedule has different tax levels, for this example the assumption of equal tax rates was used. However, districts in Classes VII through X were required to lower their levies in order to not exceed the corresponding guaranteed expenditure level at 6 mills.

b. The PERL was multiplied by the property value, displayed in column 1, for each class. This intermediate calculation, not presented in Table 2, yields an estimate of the local share of the guaranteed expenditure for those districts using the PERL.

c. The participation rates based on the discretionary levy were calculated and are displayed in column 2. To avoid introducing much spurious variation these rates (see Graph 9) were "smoothed" in the following way. The participation rates of the first three classes were averaged to form a single rate for them (46.5%); the participation rates for Classes IV through VI were averaged to form another single rate (40%); Classes VII and VIII were averaged giving them a 32% rate; and the last two classes were averaged giving them an 18% rate. 7/

d. The participation rates were multiplied by the guaranteed expenditure level, the local share of the guaranteed expenditure level, and the state share of the guaranteed expenditure level for each class (see columns 4, 5, and 6). This gave an estimate of the average for all districts in each class.

e. Average expenditures and state-local shares were re-calculated assuming an equal participation rate (40%) for all classes and are exhibited in columns 7, 8, and 9.

The results of these procedures are shown in Graphs 14 and 15. Graph 14 illustrates by district class the estimated total, local, and state revenue raised per student by the PERL. There is a negative relationship between property wealth and revenue per student raised by the levy. However, much of this is caused by our assumption of participation rates, which may not be a realistic premise. Graph 15 presents the revenue distribution when we assume equal participation rates for each class. The negative relationship between property wealth and revenue raised by the PERL disappears. Thus, there is no impact of property wealth on average revenue which implies that the PERL adheres to the fiscal neutrality doctrine. A negative relationship exists between property wealth and state aid, and a positive relationship exists between property wealth and local share of revenue raised by the levy.

Prediction of the actual revenue distribution among classes if the referendum levy were power equalized is impossible. However, the two

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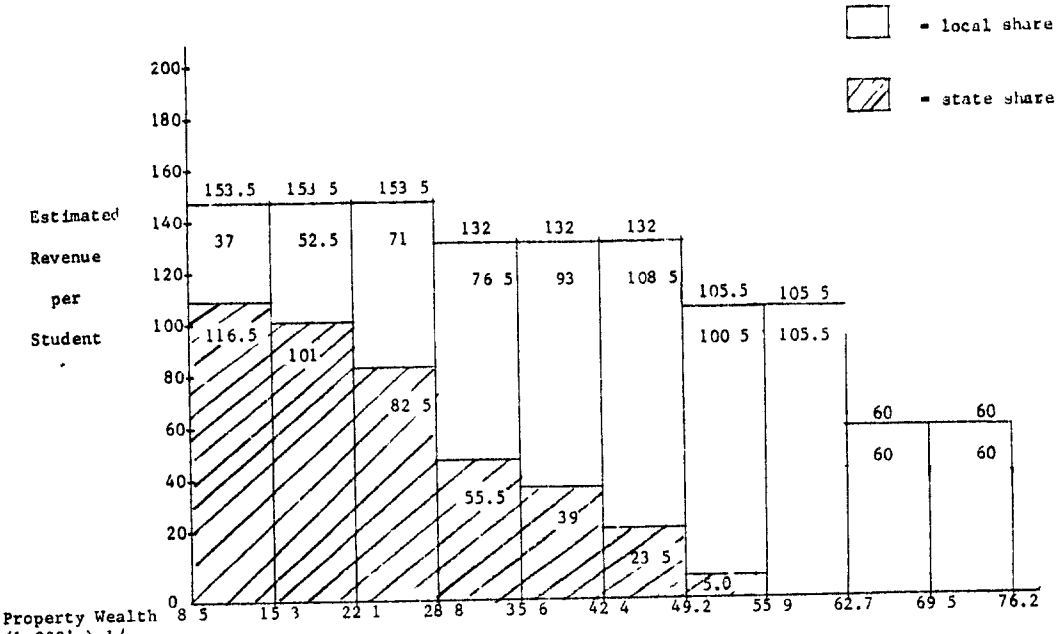
7/ Since Class XI did not use the discretionary levy, it was not included in this portion of the study.

Graph 14

Estimated Revenue Raised per Student by the Power Equalized Referendum Levy Based on Discretionary Levy Participation Rates



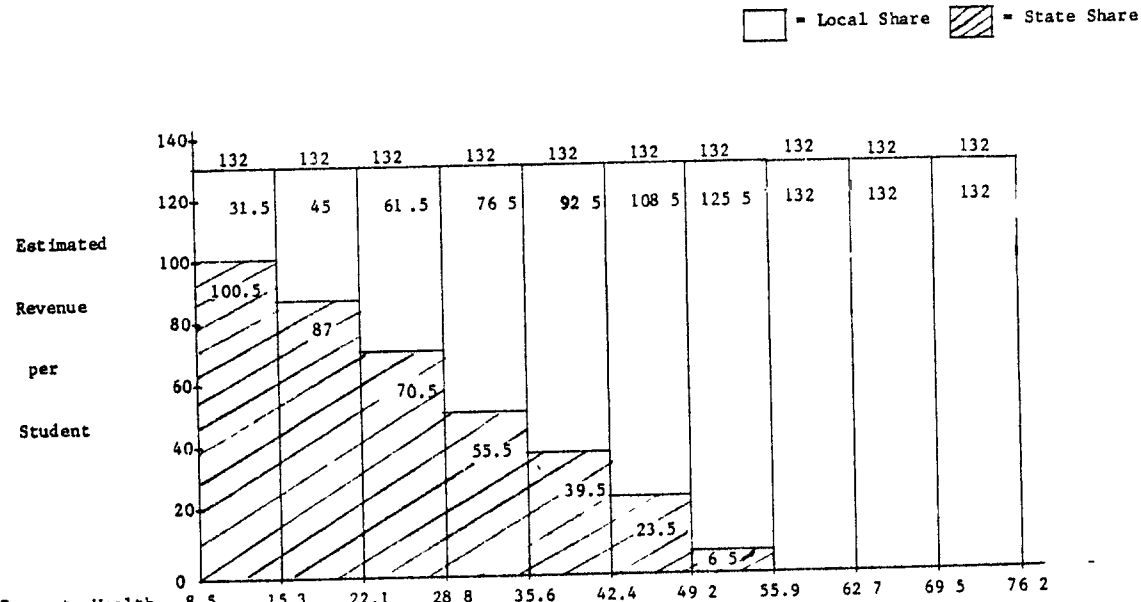
Property Wealth (1,000's) 1/

Class	I	II	III	IV	V	VI	VII	VIII	IX	X
Districts in Each Class	30	88	79	77	56	36	28	16	9	8
ADM* (1,000's)	33 7	205 3	186 2	116.2	80.2	75 7	61 7	6 1	5 6	2.0

1/ 1979 EARC/1978-1979 ADM*

Graph 15

Estimated Revenue Raised per Student by the Power Equalized Referendum Levy Based on Equal Participation Rates (40%)



Property Wealth (1,000's) 1/

Class	I	II	III	IV	V	VI	VII	VIII	IX	X
Districts in Each Class	30	88	79	77	56	36	28	16	9	8
ADM* (1,000's)	33 7	205 3	186 2	116 2	80.2	/5 7	61.7	6.1	5 6	2.0

1/ 1979 EARC/1978-1979 ADM*

estimation methods provide a good characterization of what would transpire. Power equalizing the referendum levy would allow every district the opportunity to raise the same amount of revenue that any district in the state is able to raise at a given tax level. In addition, districts are not restricted to tax at a mandatory level. Therefore, the concept of local leeway, which is crucial to the rationale behind the current referendum levy, is not mitigated. Equity is fulfilled by the PERL and not at the cost of taking away local option.

Adopting a PERL is not free of costs, however. As was mentioned earlier, a PERL would require additional state aid. Since we are not including the possibility of a recapture provision, any PERL schedule will result in increased state costs. However, there are several ways to reduce state costs. One way to lower state aid would be to reduce the amount of the guaranteed expenditure per pupil for each level of effort. For example, the schedule depicted in Table 1 could be revised to incorporate a reduction in the guaranteed expenditure level from $27.50 to $26.00 per half mill levied, which would be a 5½ percent reduction. This would lower the state's share of school revenue in two ways. First, the expenditure level would be lowered by 5½ percent which implies that state sid would be reduced by at least 5½ percent. In effect, the reduction in the expenditure level is synonomous with lowering the guaranteed property valuation set by the state. Second, with the reduction in the guaranteed property valuation, districts will raise a higher proportion of the guaranteed expenditure level locally. In fact, some districts that previously received state aid will, after the reduction, receive no aid at all. Consequently, the state pays out proportionately less state aid to districts when the guaranteed level is reduced. The overall effect is to reduce the state's share of the costs by more than the 5½ percent reduction. The PERL schedule before and after the 5½ percent reduction is displayed in Table 3.

Table 3

Power Equalized Referendum Levy Schedule Before and After the 5½ Percent Reduction in the Guaranteed Expenditure Level

Tax Level (T) (mills)	Guaranteed Expenditure per Pupil (Before 5½% Reduction) (dollars)	Guaranteed Expenditure per Pupil (After 5½% Reduction) (dollars)
0.5	27.50	26
1.0	55.00	52
1.5	82.50	78
2.0	110.00	104
2.5	137.50	130
3.0	165.00	156
3.5	192.50	182
4.0	220.00	208
4.5	247.50	234
5.0	275.00	260
5.5	302.50	286
6.0	330.00	312

Using the same set of assumptions and procedures that were used in calculating the various revenues in the first example, the results of the new PERL are illustrated in Graphs 16 and 17. The same comments hold for these two graphs with respect to equity that were mentioned in the first example. By reducing the guaranteed expenditure level by 5½ percent the state costs are reduced, under the first set of assumptions (Graphs 14 and 16), by $5.8 million or 11 percent. Under the second set of assumptions (i.e., equal participation rates - Graphs 15 and 17) state costs are reduced by $5.3 million, also 11 percent.[8/] This method of reducing state aid is advantageous because of its simplicity. The percentage reduction in state costs will always be greater than the percentage reduction in the guaranteed expenditure level.

Another means to achieve a reduction in the state share of the PERL is to change the nature of the schedule in a more fundamental fashion. Consider the schedule shown in Table 4. This schedule is identical to the schedule in Table 1 in the tax level range 0.5 through 2.0 mills. However, the $27.50 per pupil increment declines by 5 percent for each ½ mill increment after 2 mills. This type of schedule is called a declining district power equalizing schedule because each additional increase in tax effort yields decreasing amounts of guaranteed expenditures. In effect, the guaranteed property value set by the state declines at higher tax levels. The major purposes of this kind of schedule are to 1) discourage high tax rates in school districts and 2) lower state aid payments to school districts and thus enable lower state tax rates.

Table 4

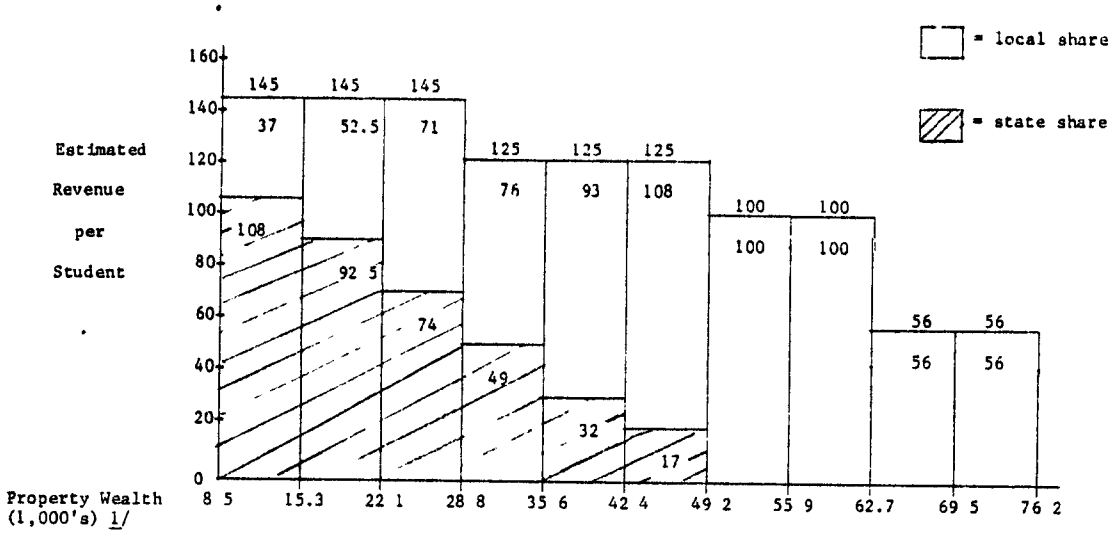
Declining District Power Equalized Referendum Levy Schedule

Tax Level (T) (mills)	Guaranteed Expenditures per Pupil (E) (dollars)
0.5	27.50
1.0	55.00
1.5	82.50
2.0	110.00
2.5	136.00
3.0	161.00
3.5	184.50
4.0	206.50
4.5	226.00
5.0	245.50
5.5	263.50
6.0	280.00

8/ State costs required for implementing PERL as described in Graphs 14, 15, 16, and 17 respectively are: $51.7 million, $46.2 million, $45.9 million, and $40.9 million. The state aid was calculated by multiplying the estimated state aid by the number of ADM* pupils for each class and summing them.

Graph 16

Estimated Revenue Raised per Student by the Power Equalized Referendum Levy, After the 5½ Percent Reduction of the Guaranteed Expenditure Level, Based on Discretionary Levy Participation Rates.

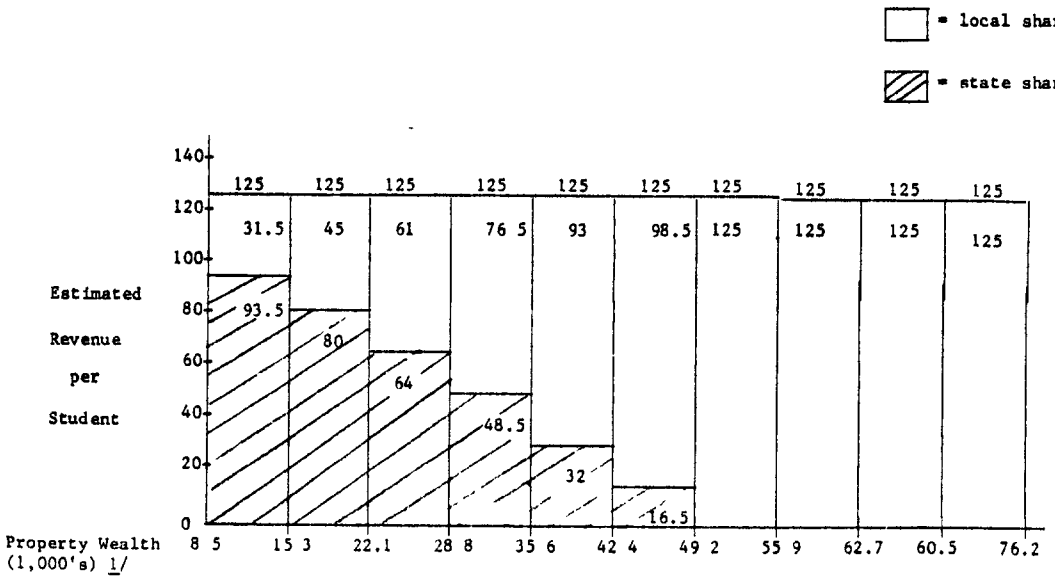


Class	I	II	III	IV	V	VI	VII	VIII	IX	X
Districts in Each Class	30	88	79	77	56	36	28	16	9	8
ADM* (1,000's)	33.7	205.3	186.2	116.2	80.2	75.7	61.7	6.1	5.6	2.0

1/ 1979 EARC/1978-1979 ADM*

Graph 17

Estimated Revenue Raised per Student by the Power Equalized Referendum Levy, After the 5½ Percent Reduction of the Guaranteed Expenditure Level Based on Equal Participation Rates (40%)



Class	I	II	III	IV	V	VI	VII	VIII	IX	X
Districts in Each Class	30	88	79	77	56	36	28	16	9	8
ADM* (1,000's)	33.7	205.3	186.2	116 2	80 2	75 7	61 7	6.1	5 6	2.0

1/ 1979 EARC/1978-1799 AMD*

The procedure employed to estimate revenue per student and share of state aid using this schedule is outlined below:

a. The new schedule would lead to less participation at levels above 2.0 mills since districts are guaranteed less revenue at these levels than was guaranteed with the linear schedule. We assume that districts will, on average, reduce their levies by 30 percent of the difference between the previously assumed ("old") levy and 2.0 mills (see column 2 in Table 5). The formula for the new levy is

   New Levy = Old Levy - 0.3 (Old Levy - 2.0).

   Classes with higher levies reduce their levies proportionately more than classes with lower levies, which is consistent with the intent and design of the declining district power equalizing schedule. Applying this formula to the old levy results in a constant new levy (4.8 mills) throughout all classes because all classes taxed at equal rates in the previous example.

b. The new PERL, estimated in step 1, was multiplied by the property values displayed in column 1 to determine the local share of the guaranteed expenditure for those districts using the PERL.

c. The participation rates based on the discretionary levy in column 3 were used as one estimate for use of the declining PERL.

d. The participation rates were multiplied by the guaranteed expenditure level (245.50),the local share of the guaranteed expenditure level, and the state share of the guaranteed expenditure level for each class (see columns 4, 5, and 6). This gave an estimate of the average for <u>all</u> districts in each class.

e. Average expenditures and state-local shares were re-calculated assuming an equal participation rate (40%) for all classes and are exhibited in columns 7, 8, and 9.

The results of the procedure are exhibited in Table 5 and presented graphically in Graphs 18 and 19. The schedule is successful in equalizing the levy. State costs are significantly reduced by $35.3 million in Graph 18 and $31.5 million in Graph 19 as compared to Graphs 14 and 15 respectively.

A PERL will increase the state aid granted to districts if a recapture provision is not part of the policy. However, a schedule may be devised that reduces state aid to what policy makers feel is an appropriate level. There are infinite ways to achieve this. The two examples provided in this section exemplify how such policies may affect state costs. The important point is that the schedule may be adjusted to fit the needs of the state while preserving local leeway.

Conclusions

This study has examined the referendum and discretionary levies with respect to their effects on equality in terms of school finance. The revenue raised by the referendum levy is not only a function of tax effort,

Table 5

Calculation of Estimated Revenue per Student Raised by the Declining Power Equalized Referendum Levy (PERL) in Districts Classified by Wealth. a/

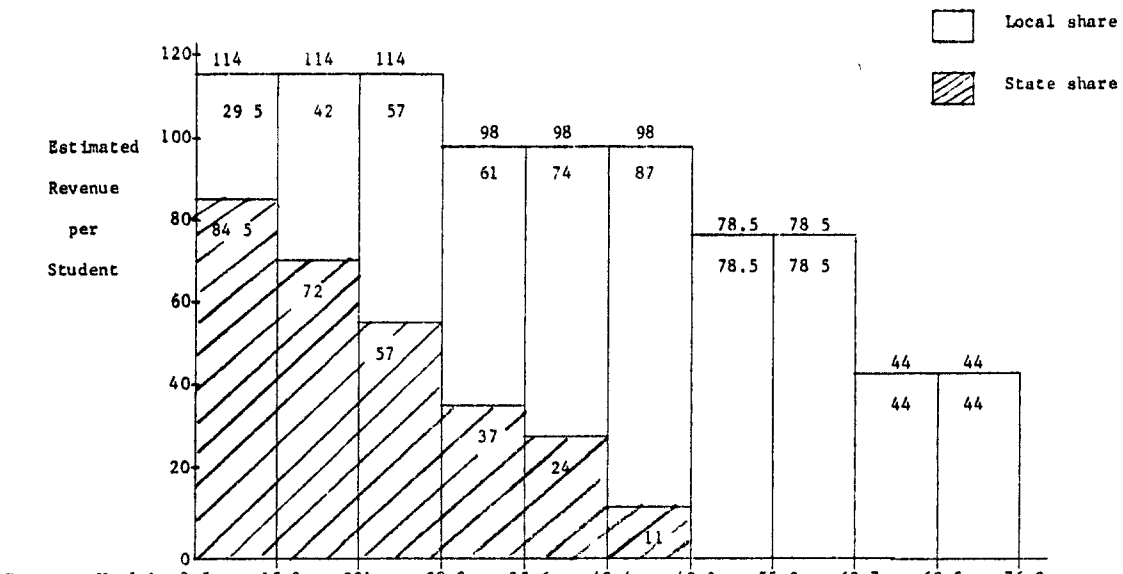
	Background Data			Estimated Revenue Per Student					
				Declining PERL Based on Discretionary Levy Participation Rates			Declining PERL Based on Equal Participation Rates (40%)		
Class b/	(1) EARC/ADM* (dollars)	(2) Declining PERL [(old levy) -.3(old levy-2)] (mills)	(3) Districts Using Discretionary Levy (percent)	(4) Revenue Raised by Declining PERL (dollars)	(5) Local Share of Expenditures (dollars)	(6) State Aid (dollars)	(7) Revenue Raised by Declining PERL (dollars)	(8) Local Share of Expenditures (dollars)	(9) State Aid (dollars)
I	13,169	4.8	46.5	114.00	29.50	84.50	98.00	25.50	72.50
II	18,873	4.8	46.5	114.00	42.00	72.00	98.00	36.00	62.00
III	25,554	4.8	46.5	114.00	57.00	57.00	98.00	49.00	49.00
IV	31,900	4.8	40.0	98.00	61.00	37.00	98.00	61.00	37.00
V	38,615	4.8	40.0	98.00	74.00	24.00	98.00	74.00	24.00
VI	45,207	4.8	40.0	98.00	87.00	11.00	98.00	87.00	11.00
VII	52,289	4.8(4.7) c/	32.0	78.50	78.50	0	98.00	98.00	0
VIII	59,607	4.8(4.1) c/	32.0	78.50	78.50	0	98.00	98.00	0
IX	66,088	4.8(3.7) c/	18.0	44.00	44.00	0	98.00	98.00	0
X	73,084	4.8(3.4) c/	18.0	44.00	44.00	0	98.00	98.00	0

a/ See text for detailed explanation of methodology; figures have been rounded in some cases.

b/ Class XI has not been included because districts in this class did not use the discretionary levy. Since the discretionary levy provides the basis for this hypothetical example, there was no basis for determining the size of the declining PERL for class XI.

c/ Classes VII through X had their levies lowered in order to meet the guaranteed expenditure level because their property valuation was greater than the guaranteed property valuation set by the declining PERL schedule depicted in Table 4.

Estimated Revenue Raised per Student by the Declining Power Equalized Referendum Levy Based on Discretionary Levy Participation Rates

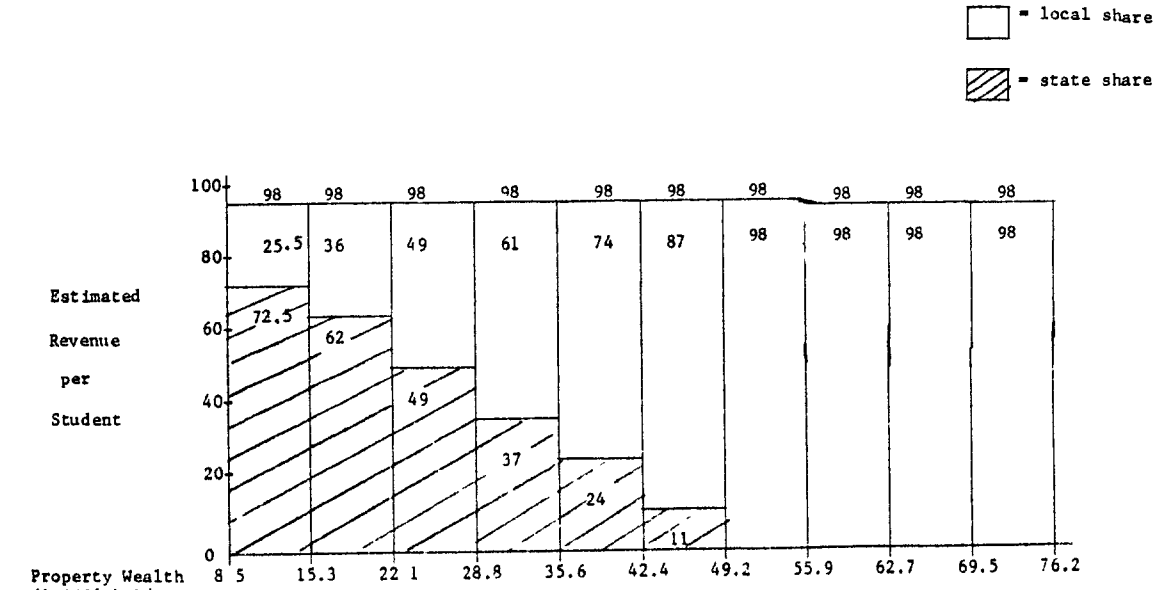


Class	I	II	III	IV	V	VI	VII	VIII	IX	X
Districts in Each Class	30	88	79	77	56	36	28	16	9	8
ADM* (1,000's)	33 7	205 3	186 2	116 2	80.2	75 7	61.7	6 1	5.6	2.0

1/ 1979 EARC/1978-1979 ADM*

Graph 19

Estimated Revenue Raised per Student by the Declining Power Equalized Referendum Levy Based on Equal Participation Rates (40%)



Class	I	II	III	IV	V	VI	VII	VIII	IX	X
Districts in Each Class	30	88	79	77	56	36	28	16	9	8
ADM* (1,000's)	33.7	205 3	186 2	116.2	80 2	75 7	61 7	6 1	5 6	2.0

1/ 1979 EARC/1978-1979 ADM*

but also a function of district property wealth. This implies that rich districts enjoy higher educational revenue per student because they are fortunate in possessing higher property wealth. Less affluent districts are not able to raise as much revenue per student when they tax at the same rates as wealthy districts. Consequently, the referendum levy does not adhere to the legal principle set forth in Serrano and Van Dusartz that the quality of public education may not be "a function of the wealth of (a pupil's) parents and neighbors". Rather, it should be a function of the wealth of the state.

The discretionary levy is not a disequalizing levy. As was illustrated, there is some indication of a weak inverse relationship between revenue raised by the discretionary levy and district wealth. The levy neutralizes district property wealth and thereby makes revenue per student solely a function of district tax effort.

There are several alternatives to the present policy concerning the referendum levy. The levy could be abandoned, but this would take away the advantage of district choice, i.e., local leeway. The levy could be dropped and the foundation formula allowance increased. This would equalize district revenue, but again at the cost of local option. Perhaps the most appealing alternative, examined here, is to power equalize the levy. This is advantageous for two reasons. First, it equalizes revenue potential with respect to wealth. Second, it allows districts to levy whatever is desired locally. Power equalizing the referendum levy would not be free of costs. It necessarily requires more state aid, if one assumes that a recapture provision is not included as part of the scheme. However, the PERL schedule may be manipulated to achieve the desired level of state aid.

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