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# MINNESOTA AGRICULTURAL ECONOMIST

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## Inequality and Minnesota School Finance

Harry M. Kaiser and Glenn L. Nelson\*

### IN THIS ISSUE

The February issue considers one of the Omnibus Tax Act's add-on levy provisions—the referendum levy. This levy, which is not equalized (“equalized” here means it corresponds to formulas that distribute state aid in a manner which guarantees all districts equal revenue per pupil for equal tax rates), is examined for its impact on revenue disparities between school districts. Another add-on levy, the discretionary levy, is included in the analysis because, being equalized, it provides a relevant contrast to the referendum levy. The issue concludes with a consideration of possible options requiring modification of existing legislation.

**“I’ve been rich and I’ve been poor; rich is better.”—Sophie Tucker**

Many states have reformed their school finance formulas to compensate for revenue disparities between rich

\*Harry M. Kaiser is a former graduate research assistant (now assistant economist, Midwest Research Institute) and Glenn L. Nelson is associate professor, Department of Agricultural and Applied Economics, University of Minnesota. Helpful comments from University colleagues John Helmsberger and Arley Waldo on an earlier draft are gratefully acknowledged.

This article is based on the authors' more detailed Staff Paper Series P81-2 entitled, “Inequality and the Referendum Levy,” Department of Agricultural and Applied Economics, University of Minnesota, St. Paul, 1981.

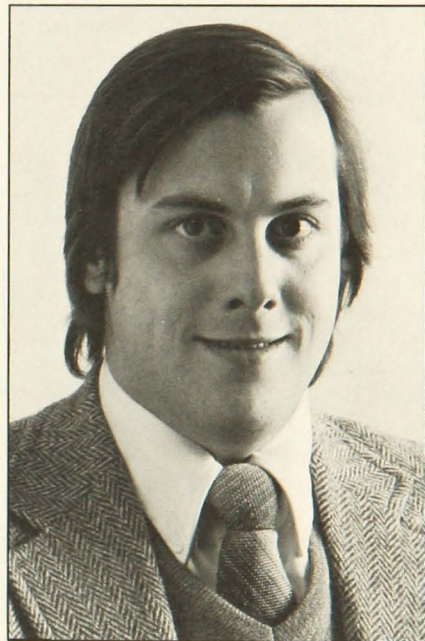
and poor school districts. A good education contributes to attaining personal financial success and fulfilling citizenship responsibilities.

Providing equal opportunity for a quality education is an important and proper goal for state policy. In Minnesota, the adoption of the Omnibus Tax Act of 1971 addressed this issue. This act, which stressed the philosophy that district property wealth should not play a major role in determining district revenue levels, resulted from legal and political forces in Minnesota that evolved in the late 1960s and early 1970s. Since 1971, policymakers have concentrated efforts on fine tuning that 1971 legislation.

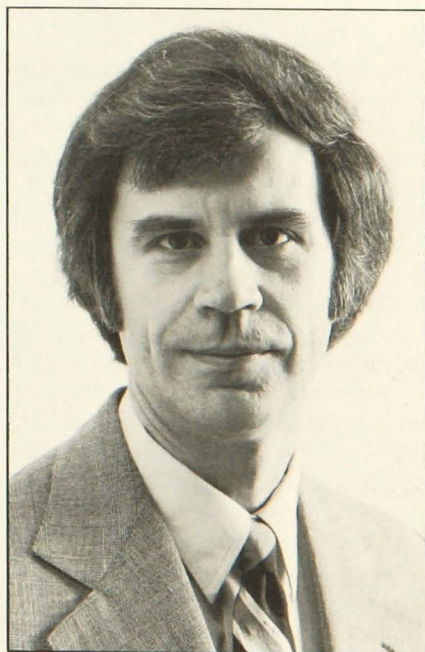
### THE FOUNDATION AID PROGRAM

Minnesota finances public elementary and secondary education through a foundation aid program designed to compensate for variations in district wealth. Under this program, a minimum level (formula allowance) of revenue per pupil unit is established and districts reach this level through a combination of state and locally raised funds.<sup>1</sup> The formula allowance is set at a revenue level that, in principle, assures every district an adequate academic program. Providing a sufficiently high minimum to guarantee every child an adequate basic education helps to ensure equal educational opportunity.

<sup>1</sup>Some districts have high enough property values per pupil unit to yield more than the formula allowance and so receive no state aid. These districts are said to be “off the formula” which means they are disqualified from receiving state foundation aid.



Harry M. Kaiser



Glenn L. Nelson



Districts are required to levy a mandated tax rate (basic maintenance levy) against the property tax base, which is adjusted by the Equalization Aid Review Committee (EARC) to neutralize differences in assessment procedures among local authorities. The state pays the differential between the amount raised locally and the formula allowance.<sup>2</sup> Hence, the formula used to allocate state aid is:

$$\frac{\left( \begin{array}{l} \text{Formula} \\ \text{Allowance} \end{array} \times \begin{array}{l} \text{Pupil} \\ \text{Units} \end{array} \right) - \left( \begin{array}{l} \text{Basic} \\ \text{Maint.} \\ \text{Levy} \end{array} \times \begin{array}{l} \text{Equal. Assessed} \\ \text{Property Val.} \end{array} \right)}{=} \text{District State Aid}$$

Districts with relatively low property wealth raise a smaller percentage of the formula allowance than more affluent property districts and therefore qualify for more state aid. If districts were only allowed to use the basic maintenance levy, every participating district would have equal revenue per pupil unit. Allowing districts to use only the basic maintenance levy would be highly restrictive, however, and perhaps politically infeasible. As their income rises, people tend to demand more public services. Legislation forcing complete equality could be objected to as an excessive encroachment on individual freedom and community self determination.

Districts may use several additional levies. Two of these levies, the referendum and discretionary levies, are examined here. The discretionary levy may be adopted by a local school board, subject to tossing out by petition and vote of the local citizenry. The discretionary levy is an extension of the basic maintenance levy. State aid fills the gap between locally raised revenues and guaranteed tax yields. Districts enacting this levy are guaranteed an additional \$27.50 per pupil unit at a fixed ½ mill rate in 1979-80 and \$64.48 per pupil unit at a fixed 1 mill rate for 1980-81.<sup>3</sup> The size of the levy is determined by the state legislature, and districts can only reject or accept it.

The referendum levy is proposed by a school board to the citizens of the district, who decide in an election whether to levy the tax on themselves. The referendum levy is not equalized. Districts adopting this levy are free to

levy an unlimited amount of additional mills against their property tax base and retain all revenue for educational purposes. Those favoring the program argue that supplements to the basic maintenance levy, as add-on levies which emphasize the philosophy of "local leeway," encourage innovation and reform within the educational system. Others contend that while local leeway is a vital component of the foundation aid program, uncontrolled local leeway (wide ranging levies and millage) may generate substantial disparities in educational revenue between districts.

## THE ANALYSIS

Minnesota has approximately 437 school districts, depending on how they are defined. Of these, six districts were deleted from the analysis because five do not maintain a kindergarten through senior (K-12) program within the district and in one, 99 percent of the property is tax exempt. The remaining 431 districts were arranged from lowest to highest according to their 1979 EARC property wealth per pupil unit. The pupil unit measure used in this study is a particular form of 1978-79 Average Daily Membership (ADM), which we will call ADM\*.<sup>4</sup> ADM\* counts every pupil in kindergarten as one-half of a daily membership because they attend school on a half time basis. Each pupil in the elementary and secondary grades is counted as one daily membership.

After ranking districts according to property wealth per pupil (EARC/ADM\*), the districts were divided into ten classes with equal property wealth intervals. Four districts were placed in a special class (Class XI) because their EARC/ADM\* was substantially higher than the other districts. The average EARC/ADM\* was \$33,327.

The percentage of districts that adopted each of the referendum and discretionary levies is presented in graphs 1 and 2 by district class. Property affluent districts are more inclined to use the referendum levy than lower wealth districts, as shown in graph 1. Districts in Class XI had a somewhat lower percentage of districts using the levy than in Classes VIII to X, but the number of districts in Class XI is small (4 districts) and these districts differ from others in their extremely large

property wealth base. Thus, one should be cautious about forming generalizations based on Class XI. Graph 2, in contrast to graph 1, indicates a negative relationship between adopting the discretionary levy and property wealth.

The percentage of districts using these levies within each class is only one of the determinants of the revenue raised. The other determinant is the magnitude of the levies. The mill rates for each levy in each district were computed by dividing the total revenue raised from the 1979-80 district property tax levy by the 1979 EARC value. The average discretionary and referendum mill rates for all districts in each class were calculated. Districts not using the levies were included in the averages because of concern with equity among *all* pupils. Graphs 3 and 4 summarize the results.

Graph 3 shows a positive relationship between the size of the referendum levy and district property wealth. Disparities in the magnitude of the levy between classes are substantial. The results in graph 4 reveal a negative

<sup>2</sup>The formula allowances for the 1979-80 and 1980-81 school years are \$1,182 and \$1,265 per pupil unit, respectively. The corresponding basic maintenance levies for these years are 27 and 23 mills, respectively.

<sup>3</sup>Each district with an EARC property valuation per pupil unit sufficiently large to yield more than the guaranteed funds at the stipulated mill rates must lower the discretionary levy so it raises only \$27.50 per pupil unit in 1979-80 and \$64.48 in 1980-81.

<sup>4</sup>The school district data used in this report were obtained from "School District Profiles," a Minnesota Department of Education publication. 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 measure, that is, ADM or total pupil units.

relationship between the average discretionary levy mill rate and district property wealth.<sup>5</sup>

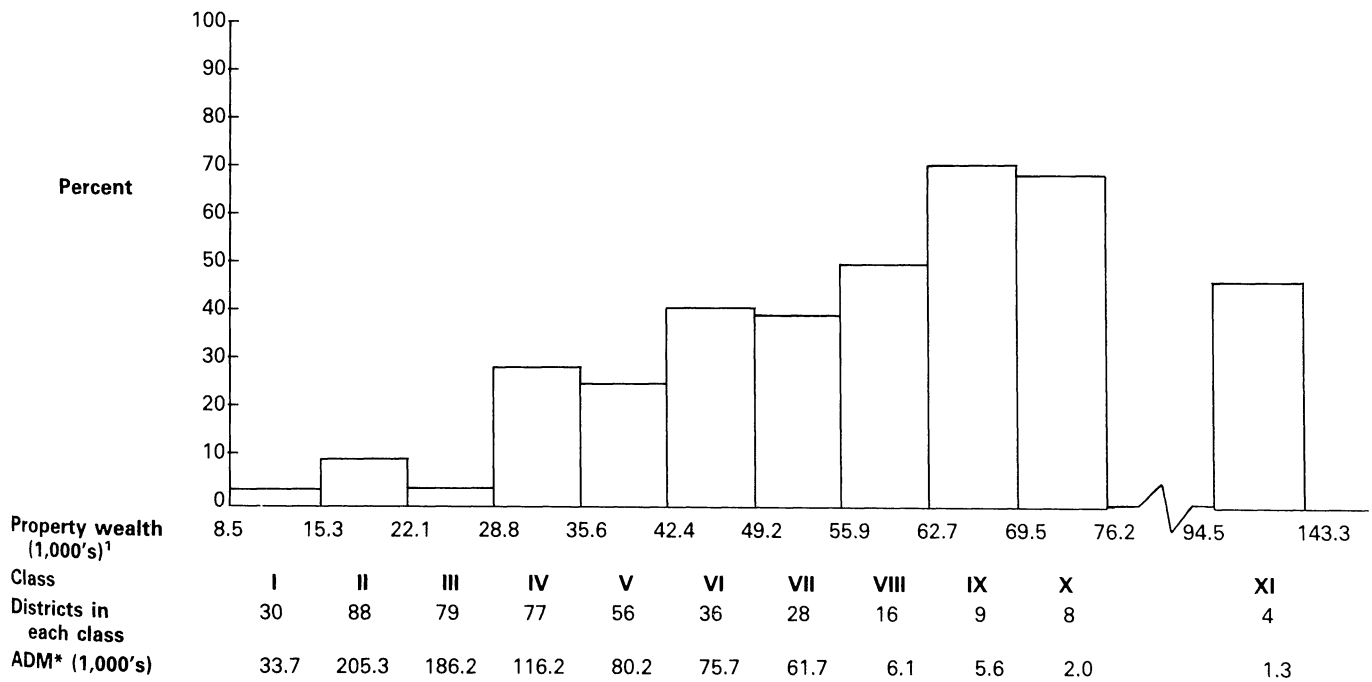
The amount of revenue that each class of districts raises by each of the levies is the most crucial issue because this reveals whether the levies cause disparities in per pupil revenue between districts. The revenue per student raised by the referendum levy was estimated for each class by multiplying the

average EARC/ADM\* by the average referendum mill rate. The findings, displayed in graph 5, show a significant positive relationship between wealth and revenue raised by the unequalized referendum levy. For example, the average district in Class IX raises over 200 times as much revenue per student from the referendum levy as the average district in Class I. Remembering that wealthier districts tax themselves at a higher rate for the referendum levy, we wanted to know if this was the cause of the differences between classes of districts. To examine this, we assumed all classes tax at the same rate. The results, displayed in graph 6, continued to show the same pattern: the revenue raised by each class would range from \$17.12 to \$144.85 per student. In short, the referendum levy would generate unequal revenue per pupil even if taxpayers in all districts chose to tax themselves at the same rate.

The revenue per pupil raised by the discretionary levy was estimated for each class in a manner similar to that used for the referendum levy. Local and state shares of the revenue were calculated as well as total revenue. Graph 7 shows the results. The local share increases relative to the state share as district property wealth increases. Conversely, the state share declines relative to the local share as district property wealth increases. The total revenue per student raised by the discretionary levy is not strongly related to the wealth of each class, although there is some indication of a decline in total revenue raised as wealth increases. An equalized levy neutralizes wealth and makes revenue solely a result of taxes. Any district that uses the discretionary levy is guaranteed the same revenue per student regardless of its property wealth.

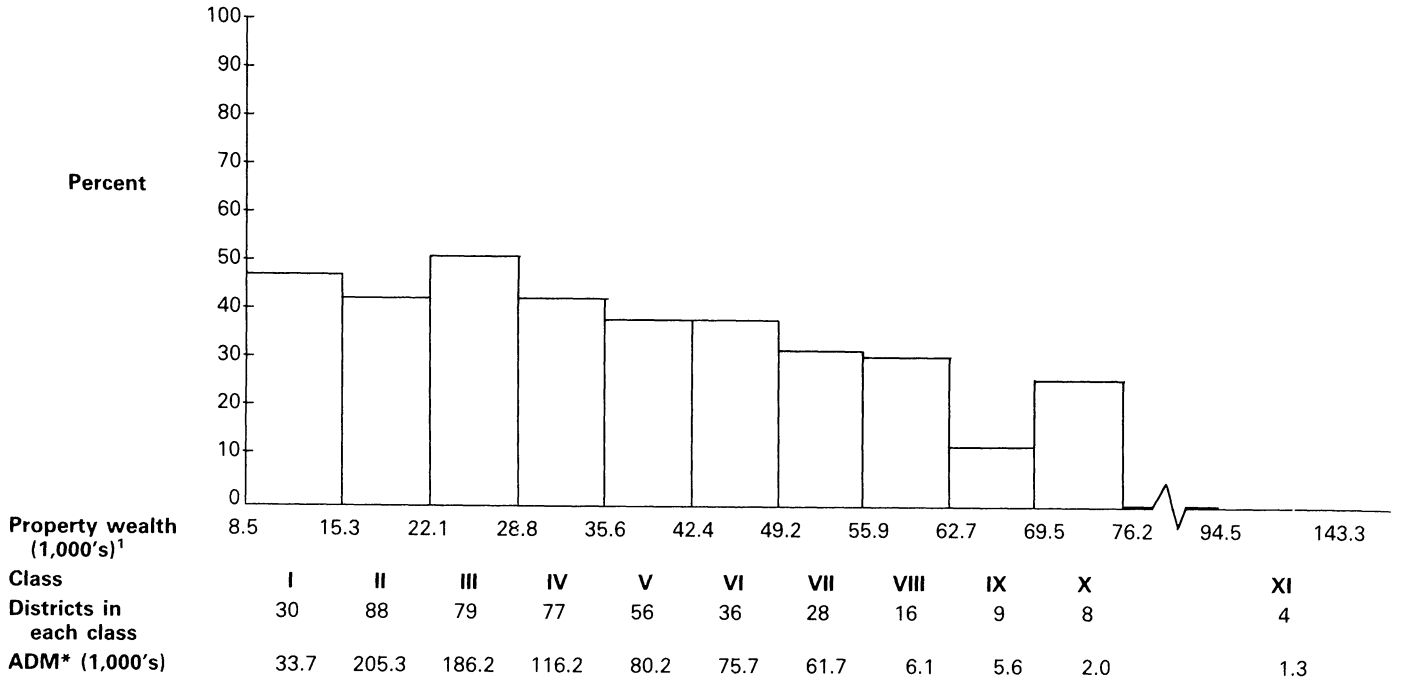
<sup>5</sup>The graphical findings regarding percentage use and average size of the referendum and discretionary levies were verified by a more rigorous statistical method known as the Kolmogorov Goodness of Fit Test. For more information on the test results and procedures, see Kaiser, Harry M., and Glenn L. Nelson, "Inequality and the Referendum Levy," Staff Paper Series P81-2, Department of Agricultural and Applied Economics, University of Minnesota, St. Paul, Minnesota, 1981.

Graph 1. Percent of districts using the referendum levy in each class



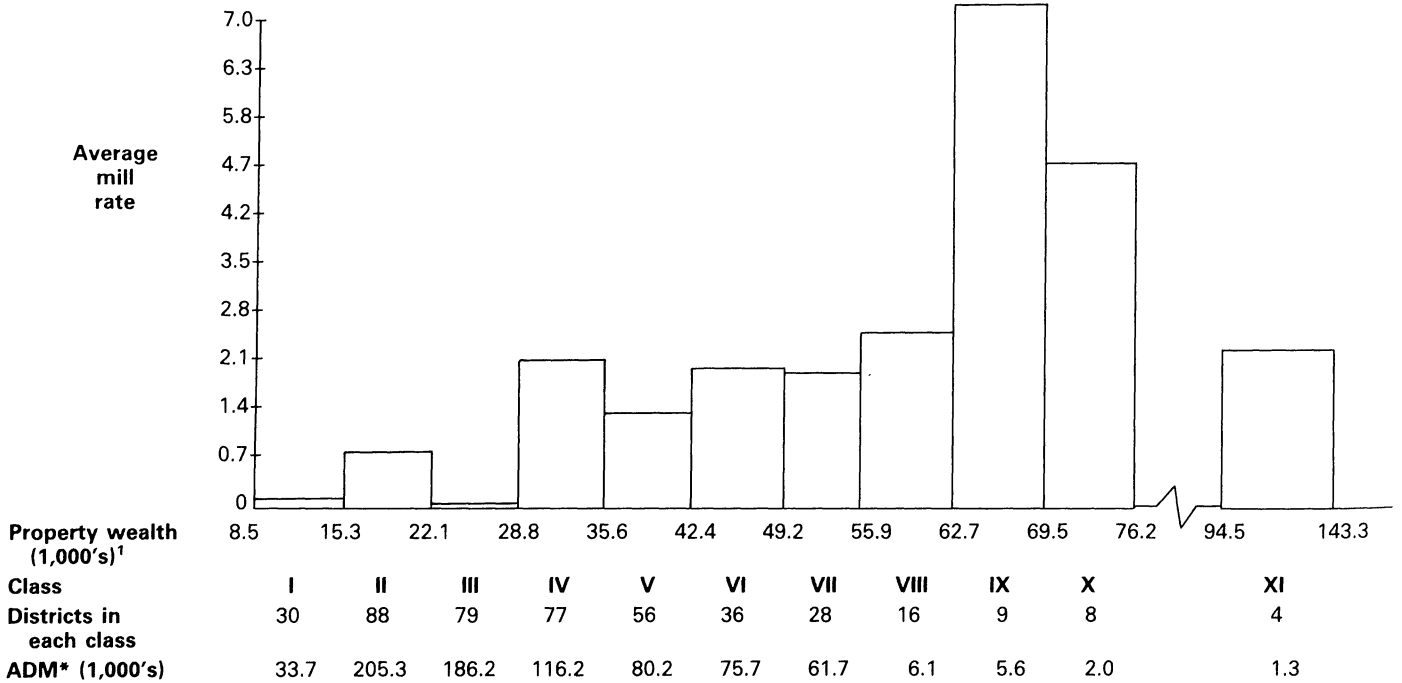
<sup>1</sup>1979 EARC/1978-1979 ADM\*

**Graph 2. Percent of districts using the discretionary levy in each class**



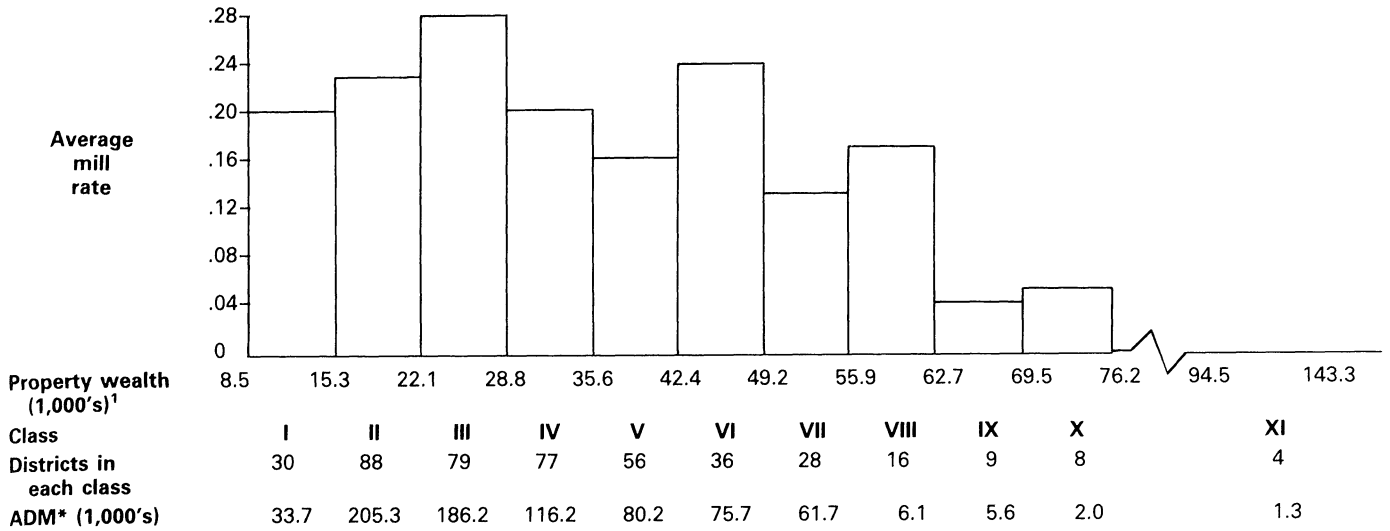
<sup>1</sup>1979 EARC/1978-1979 ADM\*

**Graph 3. Average referendum levy mill rate in each class**



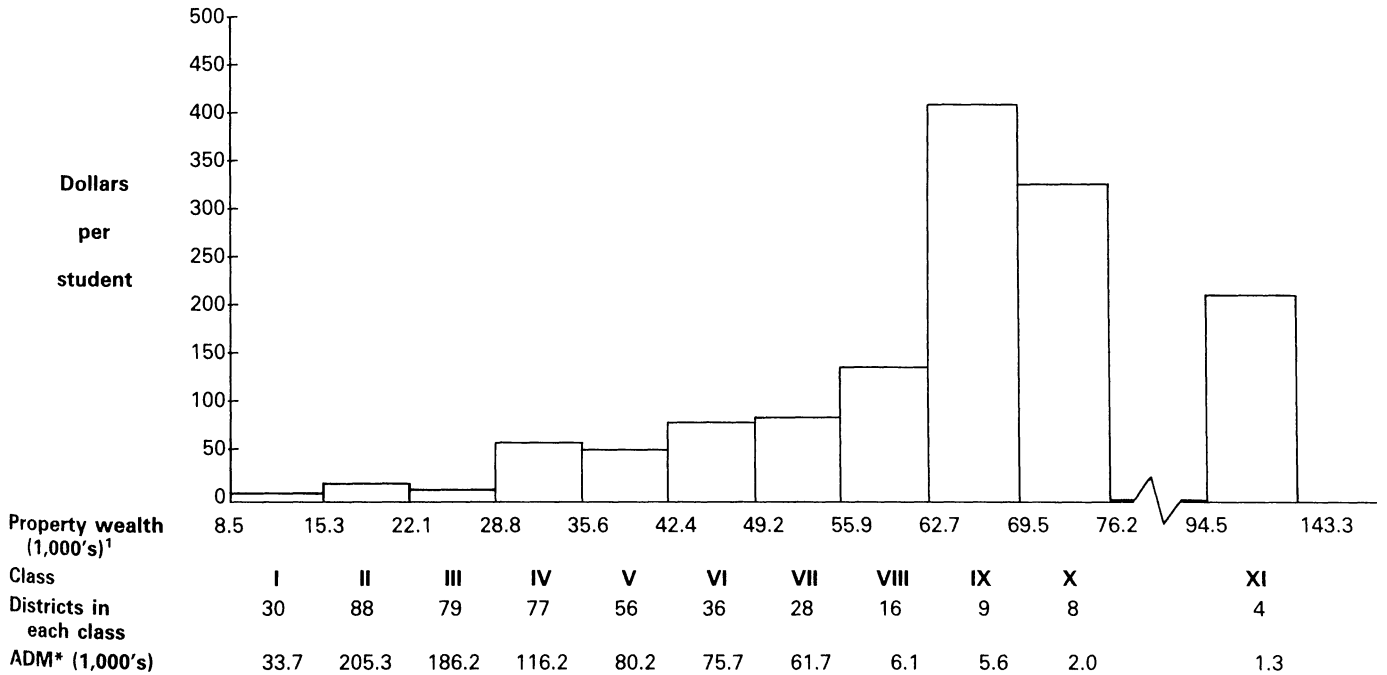
<sup>1</sup>1979 EARC/1978-1979 ADM\*

**Graph 4. Average discretionary levy mill rate in each class**



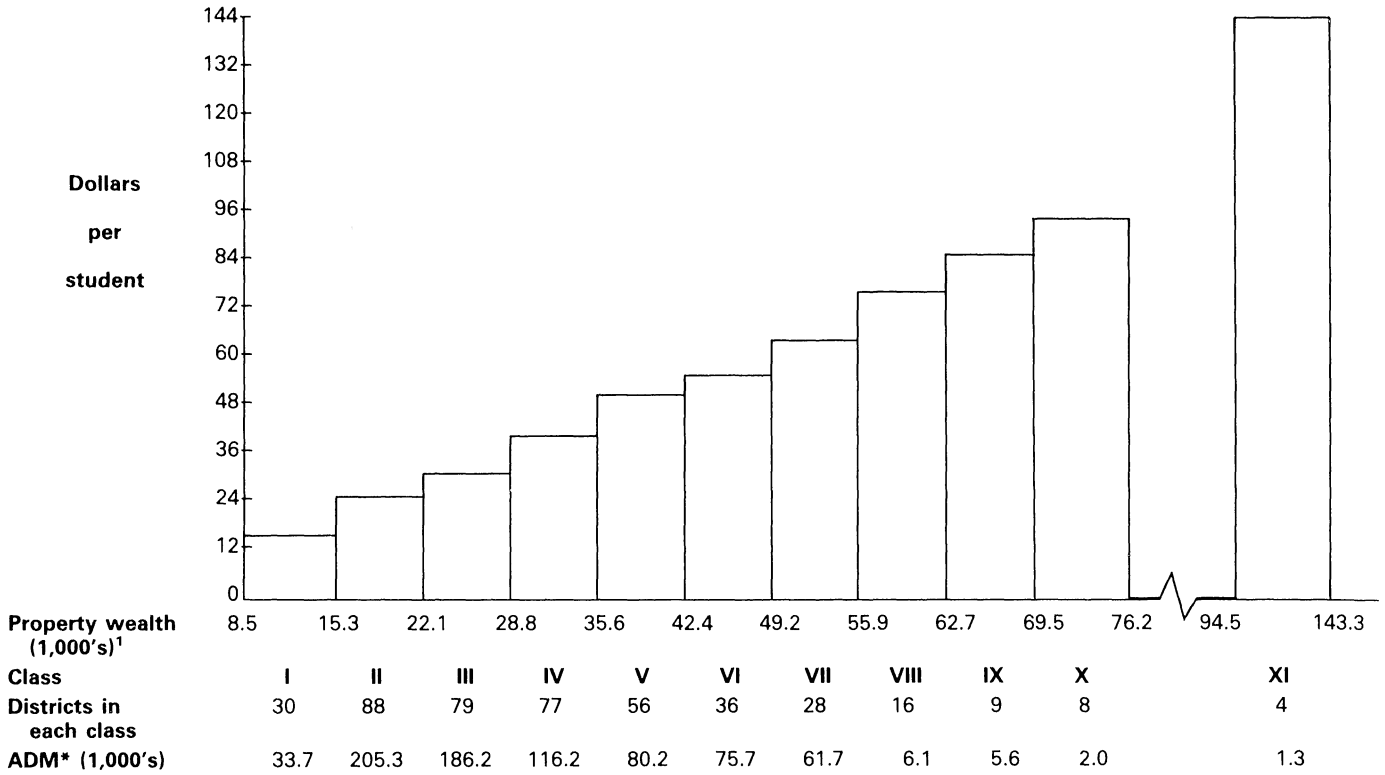
<sup>1</sup>1979 EARC/1978-1979 ADM\*

**Graph 5. Average revenue raised per student by the referendum levy for each class (average referendum levy mill rate times average EARC/ADM\* for each class)**



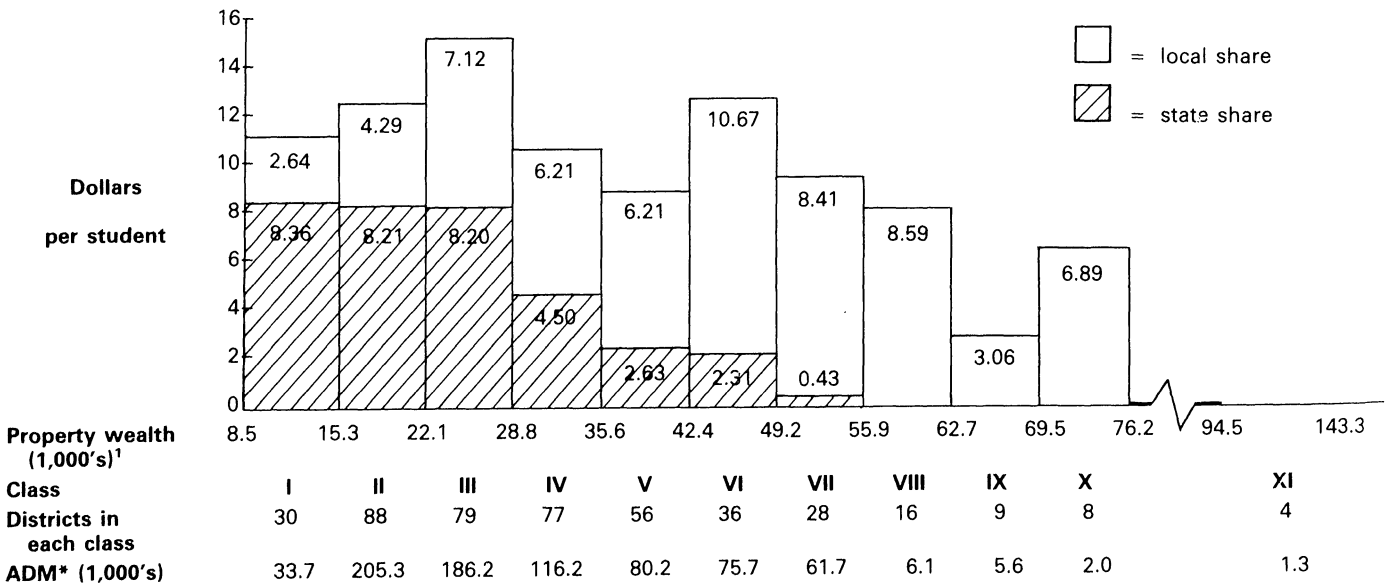
<sup>1</sup>1979 EARC/1978-1979 ADM\*

**Graph 6. Distribution of revenue per student derived by the referendum levy assuming an equal tax rate for all classes**



<sup>1</sup>1979 EARC/1978-1979 ADM\*

**Graph 7. Total, state and local share of revenue raised by the discretionary levy in each class**



<sup>1</sup>1979 EARC/1978-1979 ADM\*

## SUMMARY OF THE ANALYSIS

Use of the referendum levy is more frequent in districts with greater property wealth per student, and use of the discretionary levy is more frequent in districts with lesser property wealth per student. These patterns are not surprising but are consistent with the incentives incorporated into each levy. Wealthier districts raise more revenue per student from a given referendum mill rate than do poorer districts, so wealthier districts have a greater incentive to use this levy. Poorer districts receive more state aid per dollar of local revenue raised by the discretionary levy than do wealthier districts, so poorer districts have a greater incentive to use this levy. 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 magnitudes of these levies are consistent with these observations. Districts with relatively high property wealth have, on average, higher referendum mill rates than less affluent districts. Districts with relatively low property wealth tend to have higher discretionary mill rates than more affluent districts. The rationale for these patterns parallels that outlined earlier in the discussion.

Most important, total revenue per student raised by the referendum levy tends to be larger for districts with greater property wealth per student. The observed pattern is in part due to the higher referendum mill rates levied in wealthier districts. The positive association between revenue per student raised by the referendum levy and wealth per student would persist, however, even if all districts levied the same referendum mill rates. In short, wealthy districts enjoy both higher revenue per student and, sometimes, lower tax rates than poorer districts.

The revenue per student raised by the discretionary levy is not positively related to the property wealth of districts. The reason is that this levy is equalized—districts are guaranteed equal revenue per student for equal tax effort. The discretionary levy adheres to the legal precedent established by a U.S. District Court in Minnesota in *Van Dusartz v. Hatfield*, October 1971. In *Van Dusartz*, the court ruled that Minnesota's school finance program as of

1971 was in violation of the Equal Protection clause of the Fourteenth Amendment. The court reasoned that the quality of public education should be a function of the total wealth of the state rather than of individual districts. The plaintiffs dropped their suit because the legislature was in special session drafting a new school finance program.

The referendum levy clearly does not adhere to the principle outlined in *Van Dusartz*.

## ALTERNATIVES TO THE REFERENDUM LEVY

Given the inequitable nature of the referendum levy, what are the alternative policies open to decisionmakers 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 the support for local schools. 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. A third alternative, suggested by the workings of the discretionary levy, is to power equalize the referendum levy. This would equalize the levy *and* not necessitate a reduction of district choice. This section briefly addresses power equalization and its consequences.

The mechanics of district power equalization (DPE) are quite simple. The state establishes a guaranteed property value to which all districts apply their school tax rates. Hence, total educational revenue in each district is derived from two sources: (1) revenue raised from the local property base and (2) revenue raised from the difference between the local property base and state guaranteed property values.<sup>6</sup>

<sup>6</sup>District power equalization (DPE), in principle, has a recapture provision. In other words, districts possessing property values greater than the guaranteed property valuation per pupil are required to pay the excess of generated revenue to the state. However, the recapture provision is not employed in any of the DPE in the United States.

There are two advantages in a DPE scheme. First, it adheres to the principle of fiscal equity. Revenue raised by a district is solely a function of tax effort rather than district wealth. Second, it allows each district the freedom to select its own expenditure level for education. Thus, DPE does not violate the concept of local leeway.

One reasonable method of developing a power equalized referendum levy (PERL) schedule is to base it on the current discretionary levy. To illustrate this approach, the PERL schedule in table 1 was formulated which would extend the ½ mill limit to 6 mills, with each ½ mill earning \$27.50 per pupil. According to this schedule, districts would be allowed to levy up to an additional 6 mills, with each tax level yielding the corresponding guaranteed revenue level. The revenue raised by the PERL is not related to district wealth. Therefore, one should expect the adoption of the levy, the average size of the levy, and the revenue per student raised by the levy to be influenced very little, if any, by property wealth.

**Table 1. District power equalized referendum levy schedule based on the discretionary levy**

| Tax level (mills) | Guaranteed revenue per pupil (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                                 |

Adopting a power equalized referendum levy would not be free of costs. A PERL would require additional state aid to districts that are not able to raise the guaranteed expenditure level locally. However, there are numerous ways to manipulate a power equalized schedule to fit the policies of the state. In fact, if a recapture provision is included, revenue may be redistributed from wealthy districts to less affluent districts without a net increase in state revenue. This scheme has the virtue of being flexible in the amount of state aid required for its implementation.



## CONCLUSIONS

This study has examined the referendum and discretionary levies with respect to their effects on equality in terms of school finance. The revenue per student raised by the referendum levy is not only a function of tax effort, but also a positive function of district property wealth per student. This implies that rich districts enjoy higher educational revenue per student because they are fortunate in possessing higher property wealth; while less affluent districts are not able to raise as much revenue per student when

they tax at the same rates as wealthy districts.

Revenue per student raised by the discretionary levy shows a weak inverse relationship to district property wealth per student. The power equalized discretionary levy neutralizes district property wealth and makes revenue per student solely a function of district tax effort.

There are several alternatives to the present policy concerning the referendum levy. It could be abandoned, but this would take away the advantage of district choice, that is, local leeway. The levy could be dropped and the foundation formula allowance in-

creased. This would equalize district revenue, but again at the cost of local leeway. Perhaps the most appealing alternative, examined here, is to power equalize the levy. This has two advantages. 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 cost free. It necessarily requires more state aid, if one assumes that a recapture provision is not included as part of the scheme. However, the additional costs to the state may be minor relative to the benefits of greater equity in school finance.

Please send all address changes for Minnesota Agricultural Economist to Nancy Van Hemert, 231 Classroom Office Building, 1994 Buford Ave., University of Minnesota, St. Paul, MN 55108.

Jerome W. Hammond . . . . . Editor  
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