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People, Property Taxes and Public Schools

D. L. Debertin

J. M. Huie


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people, property taxes and public schools

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Cover photos courtesy Delphi Community High School yearbook
People, Property Taxes and Public Schools

D. L. Debertin and J. M. Huie, Agricultural Economics Department*

This publication has been prepared for parents, local leaders, public officials and others who are interested in improving the schools in Indiana. Recent cases in county, state, and federal courts have raised the issue of the degree of relationship between variables believed to be related to the "quality" of education offered by public schools, assessed valuation, and socio-economic characteristics of residents in the school district. The following discussion examines these relationships in Indiana school corporations based on data for the 1970-71 school year.

INTRODUCTION

Property Taxes and Public Schools. In Indiana and in most other states, heavy reliance has been placed on the local property tax as a source of revenue for public schools. During the 1970-71 school year, 66.2 percent of state and local revenue supporting public schools in Indiana was obtained from local sources -- nearly all from property taxes.1/ Substantial variation in the amount of taxable wealth (assessed valuation) backing each pupil currently exists among Indiana school corporations (Table 1). During 1970-71, adjusted assessed valuation ranged from less than $3,000 per pupil to over $30,000 per pupil. Two-thirds of the corporations with over three-fourths of the students were in schools with an adjusted assessed valuation per pupil in the $6,000 to $12,000 range.

Recent Court Cases. Recent court decisions in a number of states (Minnesota, California, Texas and elsewhere) have implied that it is not fair for students to be penalized in terms of their education because they happen to live in a school district where there is little taxable wealth. In Indiana, however, a 1972 decision by a circuit court in Johnson County found the method of financing public schools in Indiana to be constitutional. The ruling indicated that the plaintiffs had failed to show that reliance on the local property taxes led to unequal educational opportunities.2/

One hypothesis has suggested that low income communities have little taxable wealth. Consequently, an argument used by the plaintiffs in the recent court cases has proposed that the funding of public schools primarily with local property tax revenue will result in inadequate educational opportunities for children from low-income communities. Recently, the United States Supreme Court overturned the decision of a lower court in Texas and found the Texas system of financing schools (a system similar to that used in Indiana, placing heavy reliance on local property taxes) to be constitutional. In declaring the method of funding not to be in violation of the "equal protection under the laws" clause of the U. S. Constitution, Justice Powell, writing in the majority opinion concluded that, "... the Texas system (of funding schools) does not operate to the peculiar disadvantage of any suspect class (for example, the poor).”3/

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* The authors acknowledge the assistance of J. B. Kohlmeier, professor emeritus at Purdue University.
1/ Source: See Reference 8.
2/ See Reference 6.
Table 1. Distribution of Indiana School Corporations by Adjusted Assessed Valuation per Pupil in Average Daily Attendance, Grades 1-12, 1970-71.*

<table>
<thead>
<tr>
<th>Adjusted assessed valuation per pupil</th>
<th>Number of pupils</th>
<th>Percent of pupils</th>
<th>Number of corporations</th>
<th>Percent of corporations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 6,000</td>
<td>62,946</td>
<td>5.7</td>
<td>34</td>
<td>10.7</td>
</tr>
<tr>
<td>6,000-8,000</td>
<td>157,407</td>
<td>14.2</td>
<td>65</td>
<td>20.4</td>
</tr>
<tr>
<td>8,000-10,000</td>
<td>252,521</td>
<td>22.8</td>
<td>78</td>
<td>24.4</td>
</tr>
<tr>
<td>10,000-12,000</td>
<td>459,148</td>
<td>41.4</td>
<td>69</td>
<td>21.6</td>
</tr>
<tr>
<td>12,000-14,000</td>
<td>72,555</td>
<td>6.5</td>
<td>29</td>
<td>9.1</td>
</tr>
<tr>
<td>14,000-16,000</td>
<td>52,107</td>
<td>4.7</td>
<td>19</td>
<td>6.0</td>
</tr>
<tr>
<td>16,000-18,000</td>
<td>6,272</td>
<td>0.6</td>
<td>7</td>
<td>2.2</td>
</tr>
<tr>
<td>18,000-20,000</td>
<td>25,304</td>
<td>2.3</td>
<td>8</td>
<td>2.5</td>
</tr>
<tr>
<td>Over 20,000</td>
<td>20,300</td>
<td>1.8</td>
<td>10</td>
<td>3.1</td>
</tr>
<tr>
<td>Total</td>
<td>1,108,560</td>
<td>100.0</td>
<td>319</td>
<td>100.0</td>
</tr>
</tbody>
</table>


THE ISSUES

The issues arising from the recent court decisions are of consequent concern and are examined in the subsequent discussion. These issues are:

1. To what extent are differences in educational opportunities provided in Indiana school corporations related to assessed valuation?

2. To what extent are differences in educational opportunities not related to assessed valuation, but rather to the social and economic characteristics of residents in the school corporation?

3. To what extent is the amount of assessed valuation in Indiana school corporations related to the social and economic characteristics of residents in the community, such as family income?

DEFINING EDUCATIONAL OPPORTUNITY

A number of criteria have been widely used by economists, educators and others as measures of the educational opportunities provided by schools. These measures include the training and experience of teachers, the pupil/teacher ratio (the number of students divided by the number of teachers), salary levels of teachers, and course offerings at the secondary level. Teachers' salaries comprise some 70 percent of all expenditures by public schools in Indiana. Differences in per pupil expenditure levels among Indiana schools therefore largely reflect differences in salary levels and pupil/teacher ratios.

Although these criteria have been widely used to gauge the adequacy of educational programs provided by schools, research has revealed that these criteria may be unimportant factors in determining a student's level of achievement. Reference is made to a number of studies that have assessed the degree of relationship between standardized test scores and measures such as the training and experience of teachers and pupil/teacher ratios. Socioeconomic variables, such as the income level of the student's family, have been found to be far more important factors influencing achievement than measures of educational opportunities provided by the school.

While the measures of educational oppo-

4/ The training of teachers is, of course, represented by the college degree held or the credit hours of college work completed.

5/ For a study using Indiana data, see Ref. 3. Similar studies have been conducted using New York data (Ref. 7), Michigan data (Ref. 1), North Dakota data (Ref. 4) and data for the entire U.S. (Ref. 2). All reached similar conclusions.
tunity suggested here have not been shown to be related to educational achievement, the measures are important because:

1. These are the policy variables over which the school administrator and school board exert substantial control.

2. These are the variables that cost money to alter. It takes tax dollars to upgrade the training and experience of teachers or reduce pupil/teacher ratios.

3. There is substantial variation in these variables among Indiana school corporations. In other words, some school corporations operate at lower pupil/teacher ratios and have teachers that are more highly trained (hold graduate degrees) than do others.

THE ANALYSIS

An analysis of data for 269 of the school corporations in Indiana was made. Data on training and experience of teachers, salary schedules, average salary levels, pupil/teacher ratios, course offerings and assessed valuation were obtained from the Indiana Department of Public Instruction. Data on family income, education, and other socioeconomic variables were taken from the 1970 census of population (10). Regression analysis was then used as a means of assessing the statistical relationship between the variables of interest.

TRAINING AND EXPERIENCE OF TEACHERS

What is the relationship between assessed valuation and the training and experience of teachers? All school corporations in Indiana operate under established salary schedules. A teacher's salary is based both on experience -- the number of years he (she) has been teaching, and training -- the number of credit hours of college work completed or the degree held. It is therefore useful to examine the relationship between the average training and experience of teachers and assessed valuation as well as social and economic characteristics of the community.

Assessed Valuation. Analysis of data for Indiana schools revealed no evidence to suggest that teachers in school corporations with high levels of assessed valuation are more experienced or hold more advanced degrees than do teachers in other schools. Other factors appear more important. School corporations with high assessed valuations do have salary schedules with large incremental increases for each additional year of experience. Teachers with the most experience are no more likely to be found in those schools with salary schedules which provide large increases in salaries for each additional year of experience than in those which provide small increases. In fact, evidence indicates the converse. School corporations where the average experience level of teachers is highest tend to have salary schedules with very small increments for experience. One conclusion that might be reached is that factors other than salary are more important in retaining experienced teachers in a school. School administrators need not concern themselves with raising the size of the increment simply to retain experienced teachers.

Teachers holding advanced degrees are, however, attracted to schools that pay large salary increments for an advanced degree. It was found that a $100 increase in the size of the increment offered by the school for a Master's over a Bachelor's degree may eventually result in a 6 percent increase in the proportion of teachers holding Master's degrees in the school corporation.

Socioeconomic Characteristics. Experienced teachers tend to be found in low income communities and in communities where a high proportion of the population is over 65. One explanation for this finding is that these are the communities which tend to have net outmigration. Consequently, there is little

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6/ Much of the data used in the analysis was unpublished. Some of the data may be found in Ref. 5. A more complete discussion of the statistical analysis and results can be found in Ref. 3.
need to hire new (and probably inexperienced) teachers each year. There may also be few alternative employment opportunities for teachers in these communities.

Teachers holding advanced degrees tend to be found in communities where a high proportion of the population has graduated from college. There is also a tendency for schools in urban areas to have a higher proportion of teachers with Master's degrees than do rural schools.

**SALARY LEVELS**

School corporations with high assessed valuations tend to have high average salaries. This is also true of schools located in communities where the average income and educational level is high. In fact, the relationship between the family income of residents and teachers' salaries is stronger than the relationship between assessed valuation and teachers' salaries. The only reason salaries in school corporations with high assessed valuations are higher than in other schools is because increments for experience on salary schedules tend to be large in schools with high assessed valuations. Yet, the size of the increment for experience on the salary schedule was found to be unimportant in determining the average experience level of teachers in the school. No difference was found in salary schedule increments for advanced training among school corporations with differing levels of assessed valuation. Differences in salary levels in rural versus urban schools also exist. Average salary levels of teachers tend to be somewhat greater in the urban areas, even when the impacts of residents' educational levels and incomes of families in the community are removed.

**PUPIL/TEACHER RATIOS**

Separate analyses of factors influencing pupil/teacher ratios were conducted for elementary and secondary schools. For both elementary and secondary schools, the high levels of assessed valuation were found to be associated with low pupil/teacher ratios. Family income was also found to be related to pupil/teacher ratios, with schools in high income areas having lower pupil/teacher ratios than schools in low income areas. However, the factor of major importance in determining pupil/teacher ratios was not the level of assessed valuation or family income, but rather the total enrollment of the school. Administrators of schools with small enrollments are constrained to operate at low pupil/teacher ratios.

Reductions in the pupil/teacher ratio are very costly. The amount used to reduce the pupil/teacher ratio by one student in every class in a school would allow the administrator to provide each classroom teacher with a salary increase of $400-$600. It is also difficult to substantiate the argument that the educational opportunities in a classroom with 20 students are greater than those in a classroom with 21 students.

**COURSE OFFERINGS**

Little evidence of a relationship between taxable wealth and course offerings at the secondary level was found. The major factor found to influence the number of courses that are offered in an Indiana high school is the total enrollment of the school. Evidence indicated that a 60 student increase in enrollment would result in approximately the same increase in course offerings as would a $6,000 increase in assessed valuation. High schools with small enrollments are unable to offer a wide variety of courses without operating at very low pupil/teacher ratios. Consequently, it is very costly for a small high school to offer a large number of courses. High schools with large enrollments can offer a wide variety of courses and still operate at relatively high pupil/teacher ratios.

**SUMMARY OF RELATIONSHIPS**

Table 2 summarizes the relationships found between assessed valuation, socioeconomic characteristics of the community, and various characteristics of public school sys-
<table>
<thead>
<tr>
<th>Item</th>
<th>Assessed valuation per pupil on the school corp.</th>
<th>County population density per square mile</th>
<th>Children on AFDC as a percent of total enrollment</th>
<th>Percent of families with incomes below $3,000</th>
<th>Mean family income</th>
<th>Percent of population in school corp. that is over 65 years of age</th>
<th>Percent of population in corp. that graduated from college</th>
<th>Percent of population in corp. that is school age children</th>
<th>Total enrollment in the plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary differential for an advanced degree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>+</td>
<td>0</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Mean degree level in school district</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>N</td>
</tr>
<tr>
<td>Salary differential for experience</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>-</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>N</td>
</tr>
<tr>
<td>Mean experience level in school district</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>N</td>
</tr>
<tr>
<td>Mean salary level in school district</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>N</td>
</tr>
<tr>
<td>Pupil/teacher ratio, secondary level</td>
<td>-</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>0</td>
<td>0</td>
<td>N</td>
<td>+</td>
</tr>
<tr>
<td>Pupil/teacher ratio, elementary level</td>
<td>-</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>-</td>
<td>+</td>
<td>0</td>
<td>N</td>
<td>+</td>
</tr>
<tr>
<td>Availability of academic course offerings, secondary level</td>
<td>+</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>+</td>
<td>-</td>
<td>0</td>
<td>N</td>
<td>+</td>
</tr>
</tbody>
</table>

+ = positive and statistically significant at the .05 level.  
- = negative and statistically significant at the .05 level.  
0 = nonsignificant  
N = relationship not examined

**Property Taxes and the Poor**

The U.S. Supreme Court recently concluded from data supplied in the Texas case that the poor were not necessarily found in school districts with low assessed valuation, nor are the rich necessarily found in school districts with high assessed valuation. Further analysis in this study was therefore made to test the statistical relationship between the assessed valuation and socioeconomic characteristics of residents in Indiana school corporations. Socioeconomic characteristics examined included family income and educational levels. Evidence revealed a lack of relationship between assessed valuation and the socioeconomic characteristics of residents. It is just as likely that a family with less than a poverty level income will be found in an Indiana school corporation with a very high level of assessed valuation as in a school corporation with a very low assessed valuation. Moreover, there is no evidence to suggest that residents who are highly educated tend to be found in school districts with high assessed valuations. These findings provide substantial evidence to reject the hypothesis that a system of funding public schools which re-
lies chiefly on the local property tax as a source of revenue discriminates against a "suspect" class such as the poor or the uneducated.

CONCLUSIONS

1. Relationship between the amount of assessed valuation in Indiana school corporations and the measures of educational opportunity are of little consequence. Available evidence indicates that assessed valuation is unrelated to the training and experience of teachers. School corporations with high assessed valuations tend to operate at somewhat lower pupil/teacher ratios than do schools with low assessed valuations. However, differences in pupil/teacher ratios even between school corporations of very high and very low assessed valuation are quite modest.

2. The factor most closely associated with salary levels of teachers is what other people in the community earn, not the assessed valuation of the corporation. Salary levels of teachers in a public school system must be "in line" with what others in the community with comparable training are earning. If salary levels are "too high," residents exert pressure both on the school board and school administrator to prevent further increases. The school board and school administration that do not reflect the needs and wishes of the residents in the community will not long remain in power.

3. Factors other than salary are of primary importance in the retention of experienced teachers in a school system. Schools in communities where there are few opportunities for the employment of college graduates other than in the public school system face little difficulty in retaining experienced teachers. More important to a teacher than the increment on the salary schedule for an additional year of experience may be the desirability of the school as a place to teach, the desirability of the community as a place to live, and the availability of alternative employment at comparable salaries and working conditions.

4. The enrollment of the school is the primary factor influencing the pupil/teacher ratio and the number of courses offered in Indiana high schools. Schools with large enrollments are able to operate at higher pupil/teacher ratios and offer more courses than schools with small enrollments. Enrollment is more important than is taxable wealth in influencing pupil/teacher ratios and the number of courses that are offered.

5. Available evidence does not support the widespread belief that school corporations with low assessed valuations tend also to be low-income areas. There are a large number of Indiana school corporations located in low-income areas with comparatively high assessed valuations. Similarly, many of the school corporations where family income levels are high have relatively low assessed valuations. There may be individual schools within a school corporation that serve primarily low-income neighborhoods.

The present method of financing public schools in Indiana has been attacked because of its heavy reliance on the local property tax as a source of revenue. Those advocating changes in the method of funding public schools have been unsuccessful. Findings using Indiana data revealed little relationship between assessed valuation and measures widely believed to be related to the "quality" of education offered by public schools. Other measures of raising revenue for the services of state and local government may be superior to those that place heavy reliance on local property taxes. However, the contention that reliance on property taxes leads to inferior educational opportunities for some students is invalid.7/ Those supporting changes in methods of financing services of state and local government should search elsewhere for good reasons.

7/ As J. B. Kohlmeyer has succinctly noted, "She's a homely girl, but not because of the color of her hair."
REFERENCES


(6) Jensen et al. v. State Board of Tax Commissioners et al., Circuit Court of Johnson County, Indiana, No. 24, 474, (1972).


