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# A Background Report: School Aid Goals, Parameters, Formulas and Impacts Under Declining Enrollment

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# A Background Report: School Aid Goals, Parameters, Formulas and Impacts Under Declining Enrollment

## **Abstract**

There is no such thing as a perfect state school aid formula. Different people define equal educational opportunity differently and school aid formulas include a variety of criteria and incentives that result from compromise and majority voting after being "hammered out" through the political process.

## **Disciplines**

Administrative Law | Education Law | Political Economy | State and Local Government Law

**Staff Paper 188**

**A BACKGROUND REPORT:  
SCHOOL AID GOALS, PARAMETERS, FORMULAS  
AND IMPACTS UNDER DECLINING ENROLLMENT \***

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**June 1988**

**DISCUSSION OUTLINE:**

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- A. Political Constraints.**
  - B. Philosophical and Judicial Constraints.**
    - Equal access to school.
    - Equal education finance resources.
    - Equal educational inputs.
    - Equal educational outputs.
  - C. Fiscal Parameters and Constraints.**
    - How much from each source of revenue?
    - What ratio of state / local revenue?
    - What should be minimum standards for funding?
    - Which costs should be in the formula and which outside?
    - How much fiscal equalization vs. local leeway is desirable?
  - D. School Formula Options and Consequences for Declining Pupils.**
    - Matching grants.
    - Flat grants.
    - Minimum Expenditure Guarantee.
    - Minimum Wealth Guarantee.
    - Percentage Equalizing.
    - Power Equalizing.
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\* This review of literature was requested by the Interim School Finance Study Committee of the Iowa Legislature. It was presented to the Study Committee in testimony at the State Capitol, Des Moines, Iowa, June 24, 1988.

\*\* Dr. Mark A. Edelman is an Associate Professor and Extension Public Policy Economist, Department of Economics, Iowa State University. James J. Knudsen is a Graduate Research Assistant who assisted Dr. Edelman. Dr. Edelman was requested to serve as a consultant to the Iowa Department of Education and the Interim School Finance Study Committee of the Iowa Legislature.

A BACKGROUND REPORT:  
SCHOOL AID GOALS, PARAMETERS, FORMULAS  
AND IMPACTS UNDER DECLINING ENROLLMENT

There is no such thing as a perfect state school aid formula. Different people define equal educational opportunity differently and school aid formulas include a variety of criteria and incentives that result from compromise and majority voting after being "hammered out" through the political process.

POLITICAL CONSTRAINTS

Any attempt to revise a state school aid formula will not likely succeed unless most of the school districts receive more aid under the new formula than under the old. Regardless of how pure, fair or sophisticated a proposed formula may be, it must still pass the test of a majority vote. Therefore, major revisions in state school aid are usually associated with significant increases in the amount of revenue distributed. When school aid is significantly increased, more districts will likely receive increases in state aid (Alexander, Mueller and Salmon).

"Hold harmless" provisions are often used to "save from harm" or to "grandfather" in current aid levels so that certain districts will not receive less aid under the new formula. While such hold harmless provisions may temporarily prevent or slow the impact of reductions in aid, they almost never provide the potential promise of increased aid for the districts affected under a new formula. As a result, the affected districts may view hold harmless provisions as a second best solution compared to continuing the present formula or to significant increases in total state funding. But then, passage of a new school aid

formula only takes a majority vote, not a consensus of all legislators or all districts.

### PHILOSOPHICAL AND JUDICIAL CONSTRAINTS

Equalization of educational opportunity means different things to different people. Different state constitutions and courts provide additional interpretations and constraints on state aid distributions. How do we provide for equal educational opportunity for people with different circumstances and values? Because this question has no easy answers, it is appropriate for our discussion to clarify the implications of various definitions of educational equality (Garms, Guthrie, and Pierce, ch 2).

Which of the definitions ought to be applied to provide equal educational opportunity for Iowa school children?

1. Each pupil ought to have equal access to a school. This means state aid pays for transportation and/or assures existence of an organized school. While this may have been the original definition used in the homestead settlement days when many state constitutions were written, most state supreme courts today have become more restrictive in their judgements.

2. Each pupil ought to be guaranteed access to a school with minimum standards. This definition means state aid is distributed to districts so as to assure that minimum school standards (course offerings, minimum pupils, teacher qualifications and/or financial resources) are met. Beyond minimum standards, local leeway depends on state limitations and local district's aspirations and ability to pay.

3. Each pupil ought to be guaranteed equal access to education finance resources. This means state aid is distributed to districts so as to assure that wealth and/or expenditures per unit are equalized within certain ranges across districts. Not only are mandatory levies equalized, but local leeway is equalized as well.

4. Each pupil ought to have equal access to educational inputs. This means that school expenditures per pupil are allowed to vary across districts due to specified differences in labor markets, input cost variations, etc. (differences in competitive wages, teacher training, and/or years of experience). However, variation in expenditures per pupil due to other differences, such as variations in available wealth per pupil, are not legally allowed by law. Therefore, any potential local leeway is equalized as well, in terms of wealth available per pupil.

5. Each pupil ought to achieve equal educational output or performance. This definition means state aid is distributed to equalize the ability of students with different talents and aptitudes to achieve minimum competency and/or relative competency. Special needs are recognized by distributing aid to develop programs for pupils with learning disabilities and/or gifted abilities. Such state aid incentives and/or penalties may hinge on whether the perceived responsibility for the deficient performance rests with the state, local district or parents.

In summary, some of the above goals of equal educational opportunity may result in similar consequences under special circumstances. However, under most circumstances, each of the

equality goals typically have consequences that are quite different. Finally, some states will apply a combination of these concepts.

#### FISCAL PARAMETERS AND CONSTRAINTS

In addition to determining the desired definition for equal educational opportunity, decision-makers in each state must also determine the policy parameters that are to be used to limit or specify the nature and scope of the education equality definition selected. The parameters chosen depend upon the goals, criteria, incentives, and/or results desired (Alexander, Mueller, and Salmon).

1. How much of each source of revenue should be used to finance education? The major sources of state and local revenues for overhauling education finances are property, sales, income. The other current sources of revenue are not productive enough to finance a major portion of the statewide education cost. However, they may provide a tune-up.

2. What should be the targeted ratio of state and local revenues? Shifting the ratio toward local sources of revenue would tend to result in the following consequences (Kohlmeyer). More tax money would be raised locally. Local taxpayers would only have to pay for local programs. Control rests with local officials and taxpayers. Odds are that local property taxes would be raised. Historical experience suggests that fewer school consolidations are likely to occur. There would likely be wider variation in educational opportunities provided.

On the other hand, shifting the education finance ratio toward state sources of revenue would tend to result in the following consequences (Kohlmeier). Taxes paid by local taxpayers would bear less relationship to local spending per pupil or the local educational opportunity provided. Local officials and taxpayers would likely have less to say about what was done in their particular school. Odds are that less of the school funding would come from local property taxes. Other local property taxing units would likely be given more elbow room to raise more revenue without raising total local property tax revenue. More school consolidation would likely occur. Local school programs would likely be standardized and made uniform.

In summary, the "revised golden rule" is: "Those with the gold--rule." Across the 50 states, state expenditures typically range between 30 to 70 percent of total school costs, except for Hawaii at 100 percent from the state (NEA). The average is about half from state and half from local. In Iowa, nearly two-thirds of the school bill comes from state revenue sources.

3. What is the minimum adequate educational program that should be funded by the formula? Should a high school have at least 60 kids and/or 41 course units to receive state aid?

4. Which cost categories should be in the equalization formula and which cost categories should be outside? For example, should transportation and/or other functions be outside the aid formula and should the state or local district pay the full or a matching share of these categories? Should restructuring incentives, performance pay be used in allocating



resources, and should they be in or outside the general formula? Should special education programs, mandated programs, or innovation and professional development grants be inside or outside the formula?

5. How much fiscal equalization is desirable? What should be the allowable variation in revenues and/or expenditures per pupil/or unit? For what reasons should variation in expenditures per pupil be allowed to exist across districts? For example, should expenditure variations be allowed due to differences in current or previous district wealth per pupil; differences in labor market, energy, or construction conditions; and/or differences in training and experiences of teachers employed.

6. Should local expenditures be allowed to vary, depending upon the aspirations of local decision-makers? Should local leeway be allowed on specific functions such as capital projects, buildings, equipment, extracurricular programs? Should local leeway be allowed to vary by district wealth or the relative wealth during an arbitrarily selected base year?

7. What special educational needs deserve additional resources to assure equal access to educational opportunity?

Should special support and weighting be provided for handicapped, special education, vocational education, performing arts, gifted programs, sports, extracurricular needs and/or sex, drug abuse, and aids education?

8. What methods and variables should be used to chart the progress in achieving the desired limitations on variation in

educational opportunity? A scorecard for equality in taxation might test whether revenues are collected according to acceptable measures of ability to pay and whether those in like positions are treated in a similar manner. On the other hand, a scorecard for distributional equity might test whether students have equal access to resources for those with equal need and whether those who have greater needs in terms of educational inputs receive greater access to resources than those who have less need as defined by policymakers.

#### SCHOOL AID FORMULA OPTIONS AND CONSEQUENCES UNDER DECLINING ENROLLMENT

After the policy parameters and constraints have been determined, there are at least six basic types of formulas that are used to distribute school aid. Each type of formula has different implications depending upon the size and wealth of the district. Also the consequences under declining enrollment scenarios vary among the aid formula options (Garms, Guthrie, and Pierce, ch 8; Alexander, Mueller, and Salmon).

For each of the options an illustration is used to show the consequences by district wealth and for declining enrollments. In all cases, it is assumed that valuation per pupil rises as enrollment declines. This means that a specific school district would move toward the right in all of the illustrations, assuming other things constant.

The option or combination selected may depend in part upon the equality definition selected, the policy parameters selected and the desired distributional consequences of the formula.

(1) Matching Grant. Compared to the other options, the matching grant results in the widest variation in expenditures per pupil between wealthy and poor districts (Figure 1). This approach increases the variation in local leeway across districts compared to the absence of a state aid program. The percentage matching grant also tends to increase the variation in expenditures per pupil across the school districts rather than reduce this variation. Finally this approach would likely increase the variation in property tax rates across school districts in the state.

While no state uses a matching grant for its general state aid formula, some states do use it for certain categorical grants outside of the foundation formula. The matching grant simply guarantees the state will specify a certain percentage match of local revenues raised. For example, some states will simply share transportation expenditures on a 50-50 basis. Under this option, as enrollment declines, valuation per pupil rises leading to higher per pupil expenditures, state aid and local effort.

(2) Equal Flat Grants. A flat grant guarantees a specified amount of aid per pupil (Figure 2). While no state currently relies completely on a system of flat grants, several states use this option in combination with others. It can be argued that the flat grant distribution reduces the variation in expenditures per pupil compared to a system of total local leeway. However, if the flat grant is not sufficient to cover the total cost per pupil for the "poor" districts, then the variation in expenditures per pupil would typically be greater than the other options,

# Variation in School Spending Across Districts, Option I: Matching Grants

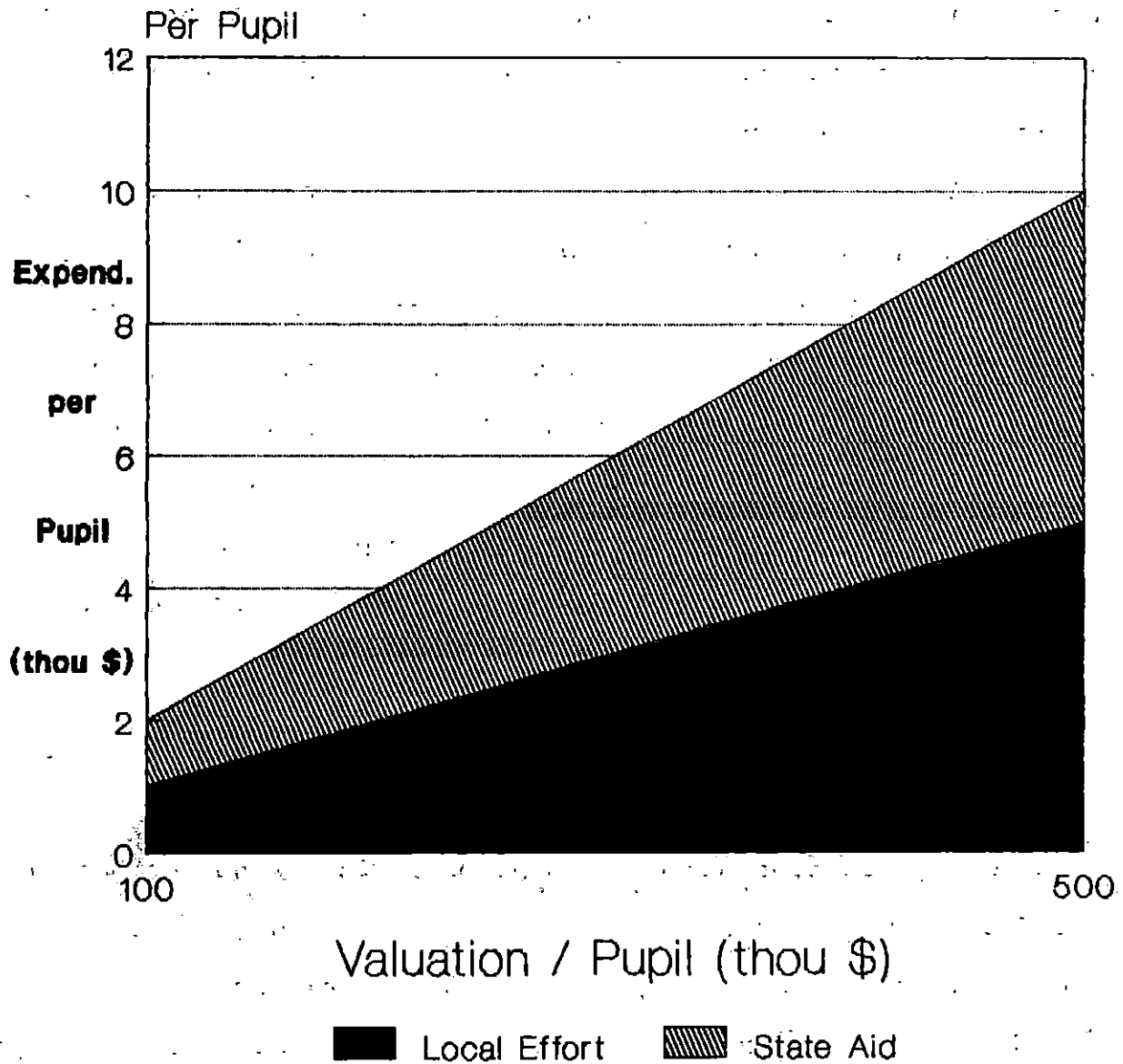


Figure 1. Matching Grant at 50-50;  
Local Levy Limit at \$10/1000.

# Variation in School Spending Across Districts Option II: Flat Grant

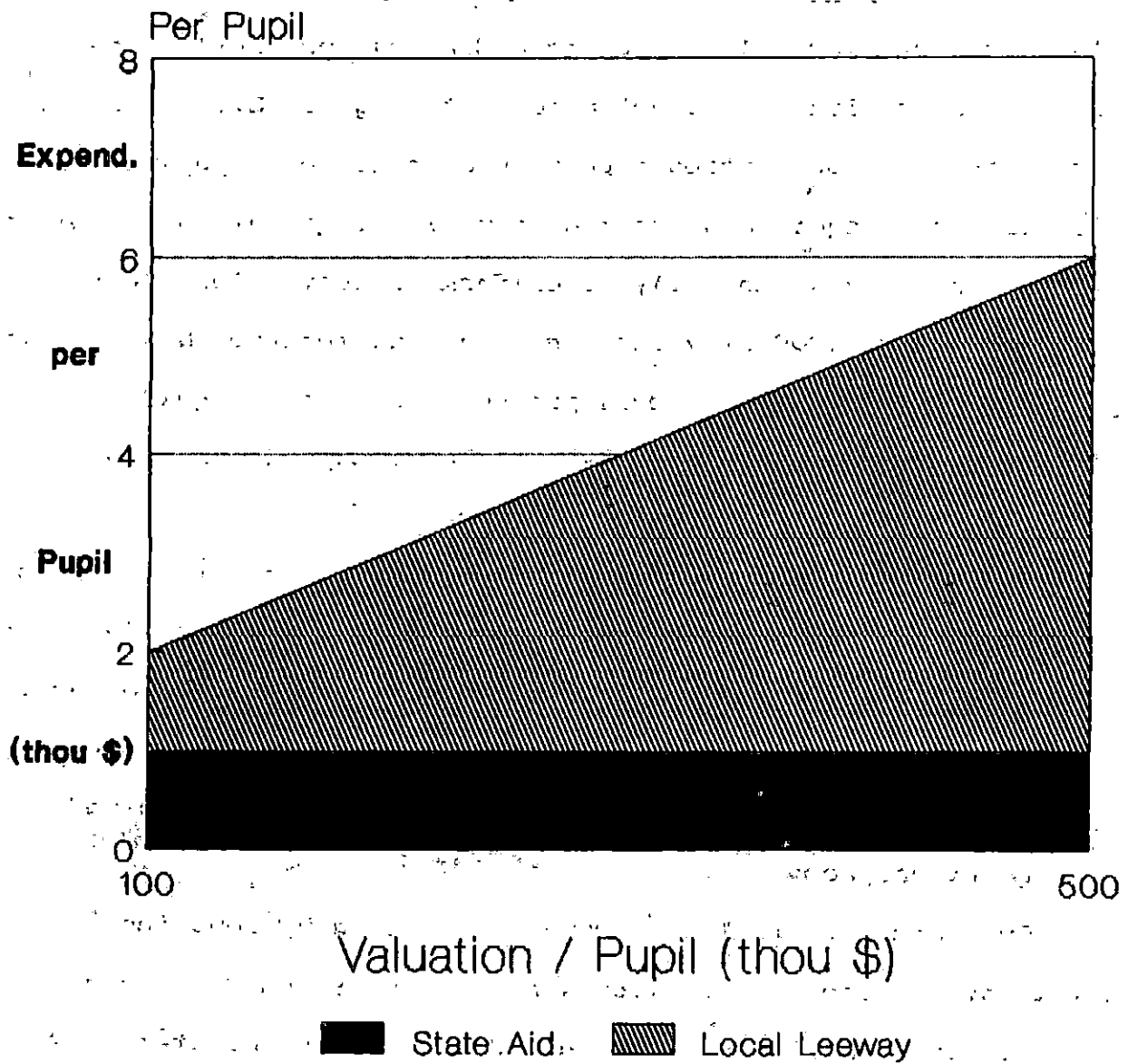


Figure 2. Flat Grant at \$1000 per Pupil;  
Local Levy Rate Limit at \$10/1000.

except the matching grant. A graduated flat grant could be used to reduce this variation.

As enrollment declines under the flat grant program, valuation per pupil rises leading to increased per pupil expenditures and local effort. However under this option state aid per pupil remains constant as valuation per pupil rises.

(3) Foundation Minimum Expenditure Guarantee. Iowa and 30 other states (School Finance at a Glance) presently uses the minimum expenditure guarantee concept (Figure 3). The state establishes a guaranteed expenditure level per pupil. Local districts are required to meet a specified level of local effort (or charge-back), normally a uniform property tax levy rate applied per \$1,000 of valuation. The difference between the guaranteed expenditure level per pupil and the required local effort per pupil is provided by state aid. Expenditures above the guarantee level are at local discretion.

Under this approach, districts with greater ability to pay in terms of assessed valuation per pupil normally receive less state aid per pupil than districts with less valuation per pupil. Therefore, the expenditure guarantee formula normally reduces the variation in per pupil expenditures among districts compared to a flat grant program.

Furthermore, if local leeway is removed by imposing higher levels of required local effort, a relatively uniform property tax rate is established across all districts in the state. As a result, state required school property taxes on one parcel would be similar to other equally valued parcels in other districts.

# Variation in School Spending Across Districts, Option III: Minimum Expenditure Guarantee

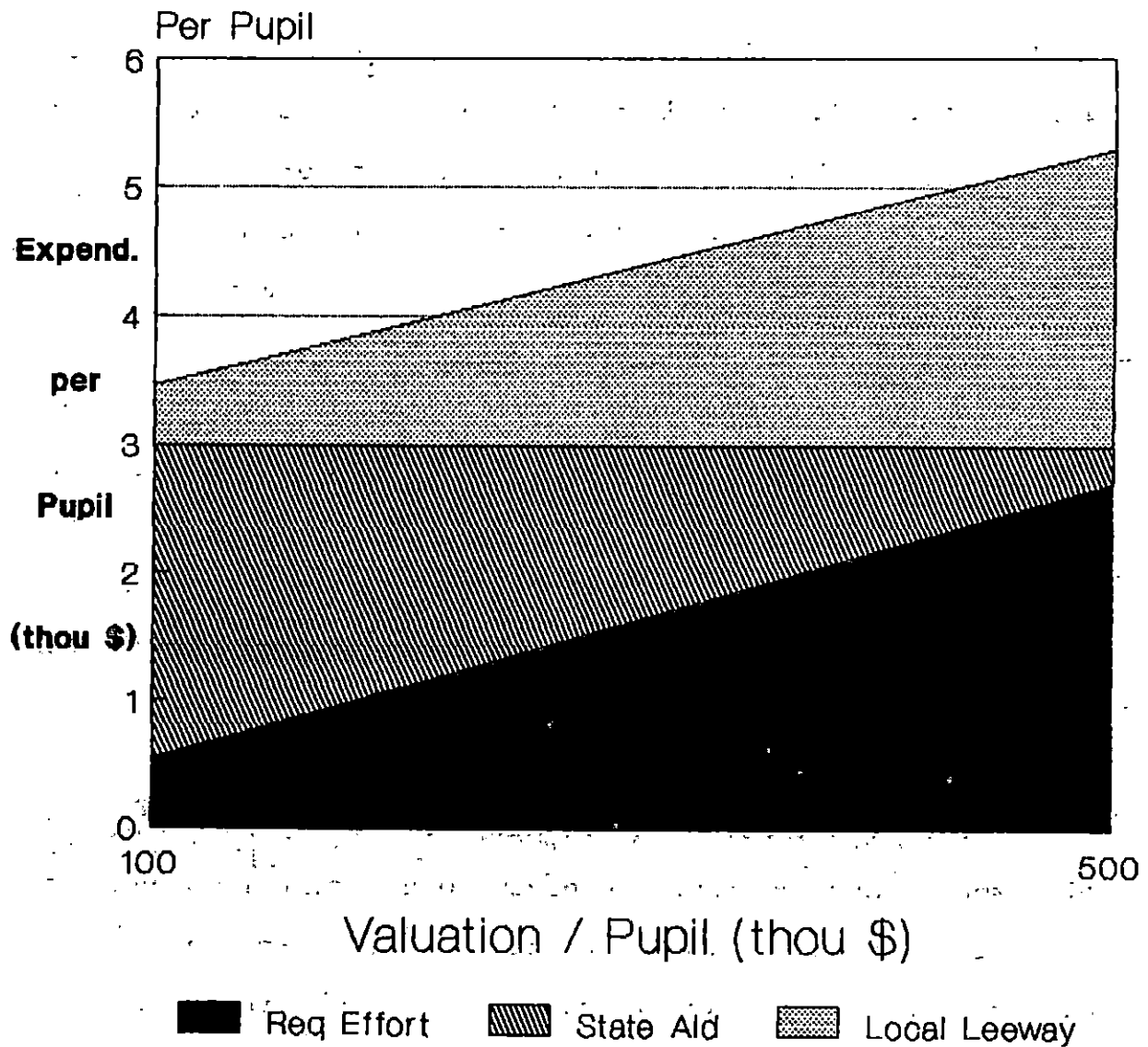


Figure 3. Required Levy Rate \$5.40/1000  
Minimum Expenditure Guarantee at \$3000;  
Local Levy Rate Limit at \$10/1000.

On the other hand, as required local effort is reduced to zero, the minimum expenditure guarantee program becomes more like a flat grant and variation in expenditures per pupil increase.

If there is declining enrollment, valuation per pupil rises resulting in increased per pupil expenditures, local leeway and required local effort. However, not only does total state aid decline but state aid per pupil also declines as pupils decline.

(4) Minimum Wealth Guarantee. Currently, six states use this approach (School Finance at a Glance). Under this option, the state guarantees that each district has more than a minimum state selected level of valuation per pupil. Under the wealth guarantee option, the actual local levy rate is used in place of a state selected property tax rate.

A variation of this approach is called the minimum tax yield, which also guarantees a minimum levy rate in addition to the valuation per pupil (Figure 4). Under this option, state aid equals the fixed tax rate times the difference between the guaranteed valuation level per pupil and a local district's actual valuation per pupil, if it is lower.

If the state guarantee tax yield level is selected to be above the district with the highest valuation per pupil in the state, then state aid would be given to all districts and the aid would be sufficient to equalize district wealth with the wealthiest school district in the state. Expenditures above the guarantee level would be at local discretion.

However, if the guarantee level is selected to be the state average valuation per pupil (Figure 4), only districts below the



# Variation in School Spending Across Districts, Option IV: Minimum Tax Yield Guarantee

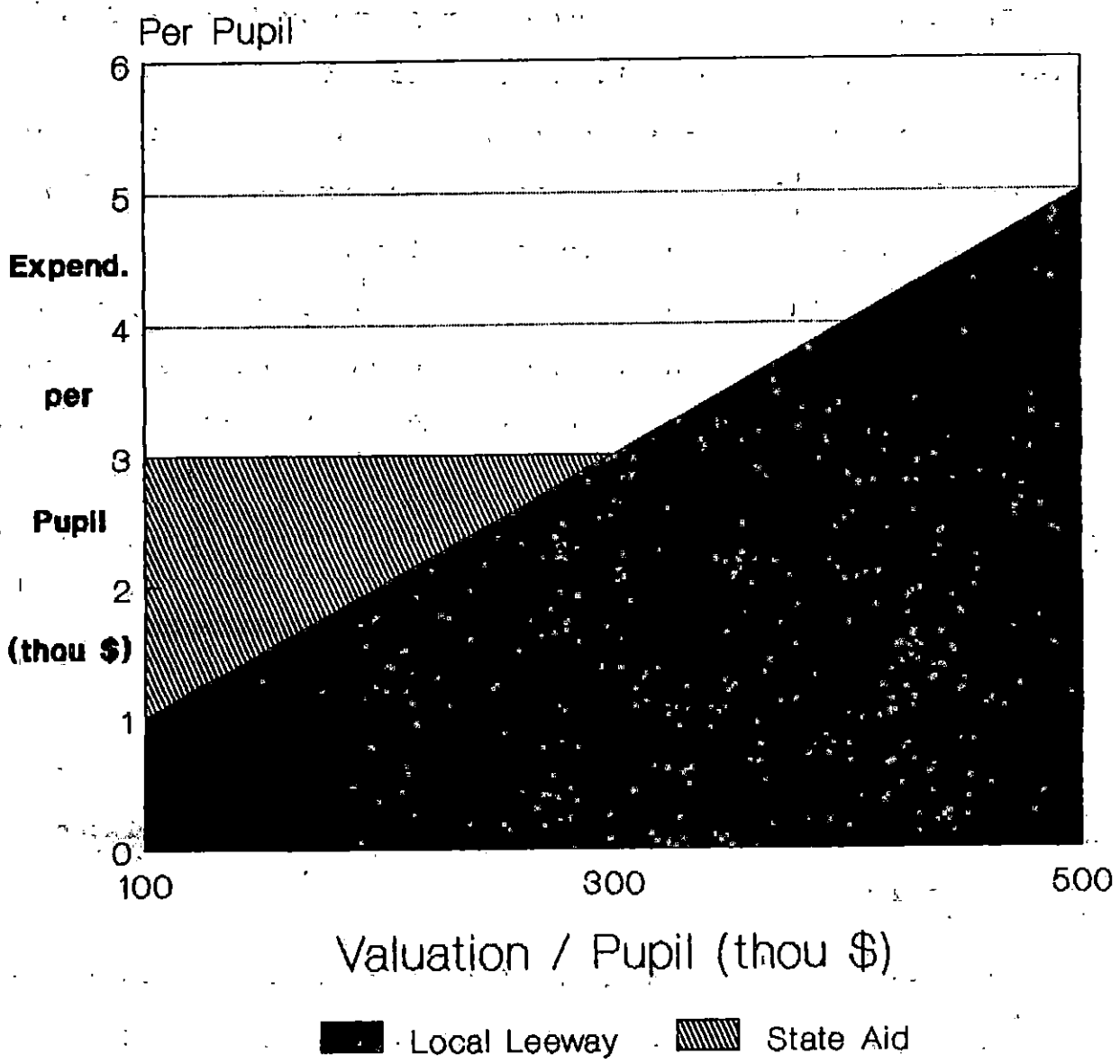


Figure 4. Tax Yield Guarantee at \$3000 per Pupil; Local Levy Rate Limit at \$10.

state average would receive state aid, while districts exceeding the state average would receive no state aid.

The aid for the "poor" districts would only be sufficient to equalize wealth with the average valuation per pupil in the state. At the same time, those districts above the state average valuation per pupil would have the capacity to spend more than the state average per pupil.

Property tax rates for parcels of property in poor districts below the state guarantee level would tend to be uniform across the poor districts. However, property tax rates for similar parcels located in the rich districts above the state average valuation may vary according to local discretion.

If the wealth guarantee option is used local leeway is opened because actual local tax rates are used in place of a state selected tax rates. Under this variation, the state aid for districts below the guarantee would increase as local levy rates increase. On the other hand, state aid for districts below the guarantee would also decline, if local levy rates decline.

Under declining enrollment, rising valuation per pupil leads to an increase in local effort and a decline in state aid for poor districts formerly receiving state aid. For rich districts which did not receive state, expenditures are totally financed by local revenues.

(5) Percentage Equalizing. Four states use this approach (School Finance at a Glance). The percentage equalizing formula typically reduces the variation in expenditures per pupil more than the previous formulas discussed (Figure 5). The percentage

# Variation in School Spending Across Districts, Option V: Percentage Equalizing

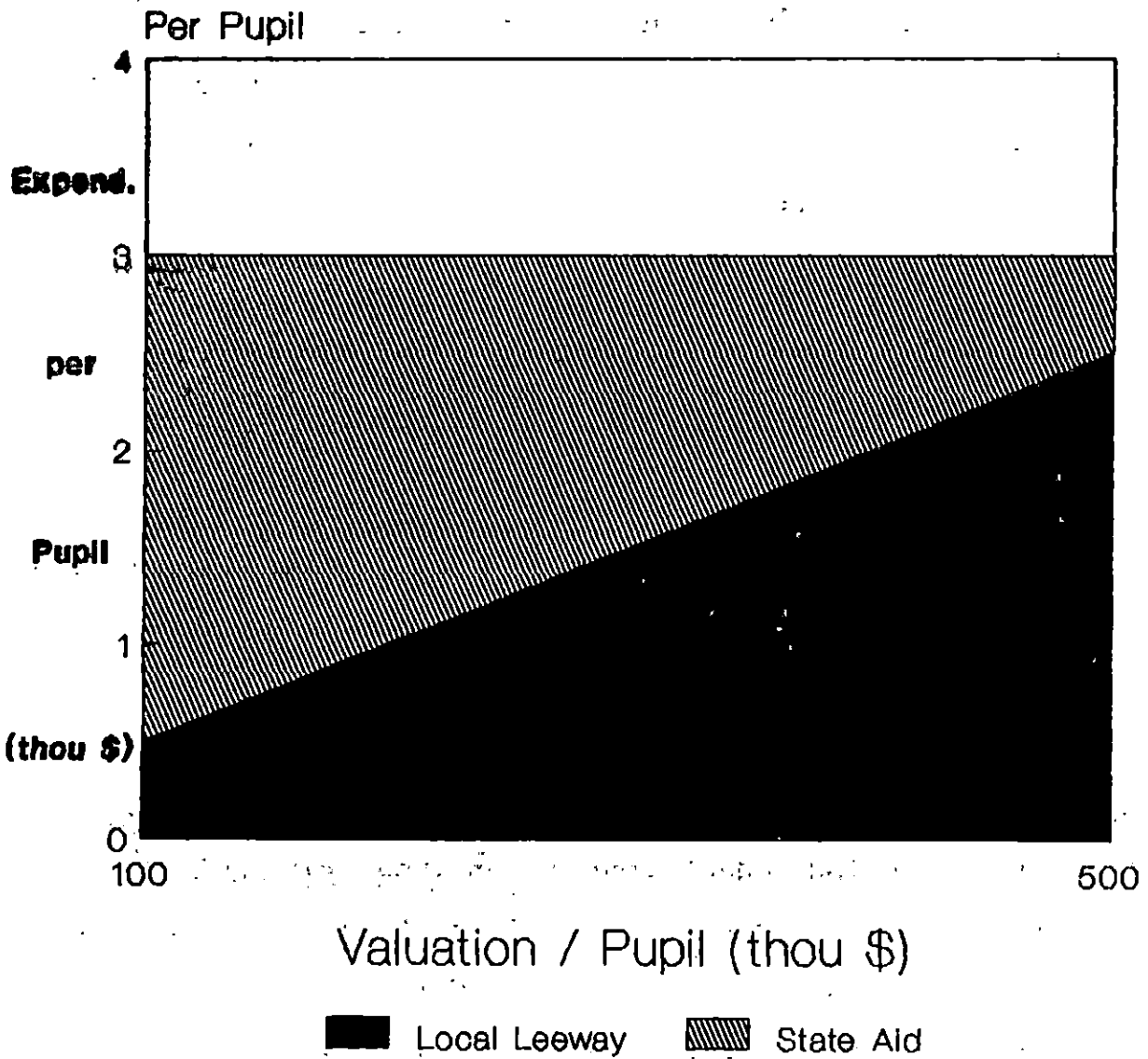


Figure 5. State Support at 50 Percent;  
State Avg. Valuation at \$300,00/Pupil;  
Local Levy Rate Limit at \$5/1000.

equalizing program is designed to distribute a set amount of state aid dollars inversely to the school district's ability to pay in terms of assessed valuation per pupil.

A state aid ratio is calculated and typically equals one minus the multiplication of a constant times a ratio of the district's valuation per pupil over the state average valuation per pupil. The constant represents the desired statewide local share of estimated state authorized per pupil costs (Figure 5).

For example, assume that the state desires that local schools pay 50 percent of the estimated state authorized school bill with 50 percent to be picked up by the state. If local District A had \$500,000 valuation per pupil and the state average valuation per pupil was \$300,000, then the state aid ratio for District A would be  $1 - (.5(500,000/300,000))$  or .1667 of the estimated state authorized per pupil cost. If the state authorized cost was \$3000 per pupil and District A had 1,000 pupils, it would receive  $(.1667 * 3000 * 1000)$  or \$500,100 in aid.

If local District B was the same size but had \$100,000 valuation per pupil, then the state aid ratio would be  $1 - (.5(100,000/300,000))$  or .8333 of the estimated state authorized per pupil cost. Here the state aid would be \$2,499,900.

The percentage equalizing option tends to result in uniform property tax levy rates across districts as long as expected state authorized costs per pupil used to drive the formula are similar to actual total costs per pupil. However, if the actual total costs per pupil are significantly higher than the state authorized costs, then local leeway can be raised above the state cost level. If this is done, the "poor" districts may be forced

to levy a higher property tax rate per \$1,000 valuation than would the "wealthy" districts in order to cover full costs.

Local expenditures per pupil may be used instead of state authorized expenditures per pupil. This open-ended variation of percentage equalizing allows more local leeway. However under this approach, either the amount of state aid must be set independent of the formula or the amount of state aid required by the formula varies depending upon local district behavior. If the latter is the case, then the state aid received by any one district depends upon the behavior of the other districts.

Under declining enrollment, rising valuation per pupil leads to increasing local leeway and local effort per pupil. However, state aid per pupil declines and total expenditures per pupil remain constant.

(6) Power Equalization Formulas. No state relies totally on power equalization, except perhaps Hawaii which provides full state funding for all education. Power equalization is a broad concept that may be applied to a variety of formulas (Jones; Garms, Guthrie, and Pierce). It refers to equalizing the tax paying abilities among school districts and does not refer to equalization of expenditures per pupil. In some cases, power equalization can involve recapture of revenues from wealthy districts to distribute to the poor districts (Figure 6).

Under declining enrollment, expenditures per pupil remain constant. State aid declines if it was formerly received. Ability to spend local revenues locally will eventually declines if the state recaptures the increase in local revenues per pupil.

# Variation in School Spending Across Districts, Option VI: Power Equalization

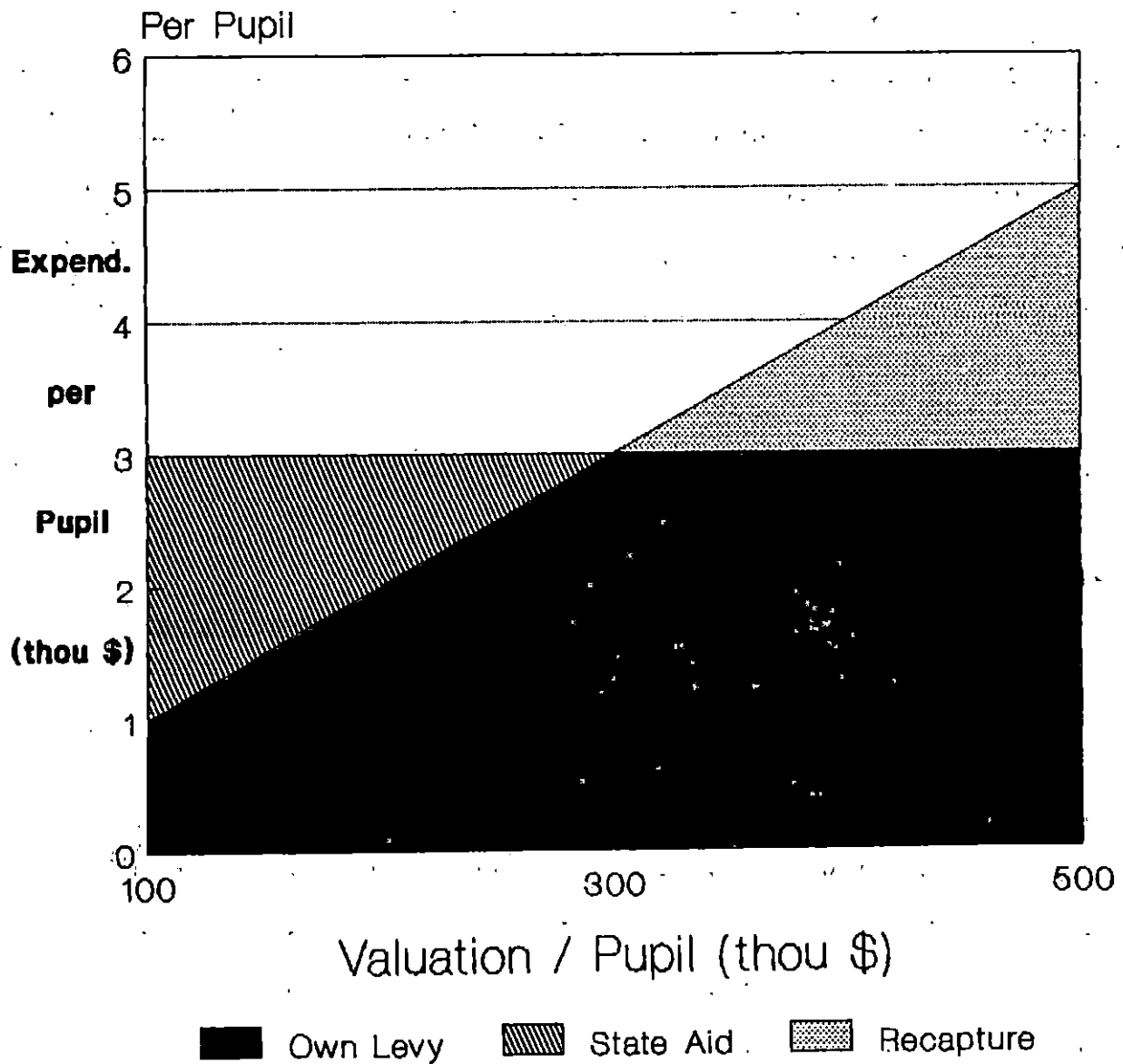


Figure 6. Power Equalization at \$3000 per Pupil; Local Required Levy Rate \$10.

(7) A Combination Approach. Eight states employ a combination of options in their respective state aid formulas (School Finance at a Glance). For example, the power equalization concept may be applied to wealth or expenditure guarantee (Figure 7) and the open ended percentage equalization formulas previously discussed. In this particular case, the impact of the power equalization is to equalize the ability to raise revenues per pupil without mandating equalized expenditures per pupil. This leaves more authority in the hands of local officials.

In addition, many states use combination formulas by separating school district expenditures according to function or object in order to develop different rationale (and formulas) in providing state aid for each type of expenditure. For example, some states have taken special education, transportation, and/or new building expenditures outside of the traditional equalization formula and developed specific formulas for each function depending upon the perceived state, local and parent-pupil responsibility.

For example, some states view provisions for school building as a local responsibility. In addition, there may be temporal inequities caused by state aid programs that assist some districts in building new buildings but penalize those districts which previously built facilities prior to implementation of the aid program. Alternatively, all districts may be given school building aid to be set aside in a fund until needed for use.

Those who believe that it is the state's role to provide equal access to a school, may prefer that the state provide aid

# Variation in School Spending Across Districts, Option III Plus Power Equalized Leeway

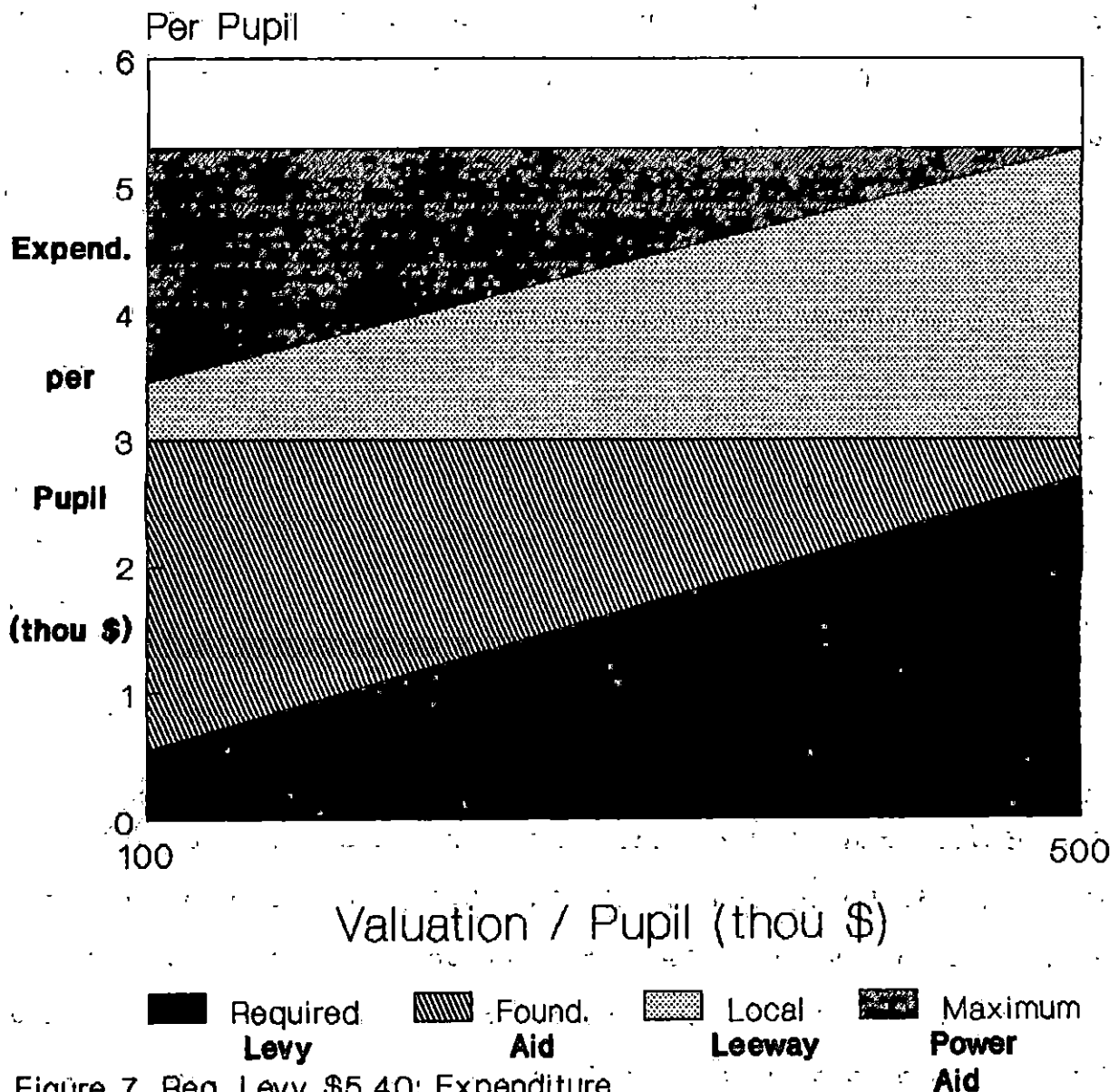


Figure 7. Req. Levy \$5.40; Expenditure Guarantee \$3000; Levy Rate Limit \$10; Power Equalized Valuation at \$500,000.



to cover all (or a percentage matching share) of transportation costs. If transportation is included within the equalization formula, geographically large districts may be penalized because a higher proportion of their budget per pupil must be devoted to transportation compared to smaller districts.

The perceived role of the state in providing access to special education programs may depend upon how such programs are geographically organized in the state. Some states encourage multi-district and/or special education sharing programs whereas other states may not. Some states may view special education as a major responsibility of the local district. However, others may view it as a major responsibility of the state to provide an equal opportunity to achieve a minimum educational competency.

#### SUMMARY STATEMENT

In the final analysis, the various school aid formula options previously reviewed result in different consequences related to uniformity in property tax levy rates and equalization of per pupil expenditures. Some formulas achieve uniform levy rates, but create variation in per pupil expenditures across districts. Other formulas achieve equalized per pupil expenditures, by creating variation in property tax levy rates across districts. Still other formulas achieve uniform tax rates and equalized expenditures per pupil. In the final analysis, the school aid formula selected by the Legislative Assembly depends upon the desired consequences.

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