ABSTRACT
        Fiscal data were analyzed for a nine-year period
(1963-1971) for all school districts in Illinois. Two hypotheses were
tested relative to two different definitions of equalization --
"permissible variance" and "fiscal neutrality." Support was given to
the notion of increasing interdistrict equality relative to
expenditures and tax effort. Support was also given to the hypothesis
that grants-in-aid have done little to change the proportion of total
funds available to the poorer students of the State. (Author)

A LONGITUDINAL STUDY OF FISCAL EQUALIZATION IN ILLINOIS[*]

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A paper prepared for the 1973 Annual Meeting
of the American Educational Research Association
New Orleans, Louisiana

Introduction

This study was undertaken for two reasons. First, some of the data reported herein was used for various studies prepared for the Superintendent's Advisory Committee on School Finance. The Advisory Committee has produced four volumes of studies which will contribute to knowledge concerning school finance and, perhaps, also contribute to fiscal reform in Illinois.(1) Second, should the Courts move in the direction of applying a "reasonable basis" test to state school finance systems, and there is some recent evidence to indicate that this might occur,(2) it is likely that there will also be a demand for more longitudinal fiscal studies. This would arise because the Courts may wish to inquire what the "track record" of the legislative and executive branches of state government has been relative to such public policy goals as: (a) reducing fiscal disparities among school districts, and (b) encouraging the equalization of educational opportunity. A state which can demonstrate that it has moved "with all deliberate speed," through the years toward these goals, might well receive different treatment at the hands of the Court than a state which can show little or no progress toward the same goals.

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To make this judgment, however, the Courts must first
establish some justifiable standard of "fiscal equaliza-
tion." This will not be an easy task.

Operational Definitions
and Hypotheses

In an earlier study Hickrod, Chaudhari, and Tcheng
established four models of fiscal equalization; that is,
"permissible variance, inverse allocation, fiscal neutral-
ity, and fiscal intervention." In that prior study we
reviewed the relevant normative and empirical literature
supporting each of these four theoretical constructs.(3)
In this paper we have selected two of these definitions,
e.g., permissible variance and fiscal neutrality, framed
hypotheses in terms of these constructs, and then tested
the hypotheses on the basis of a time series of data in a
single state, Illinois. We also conducted some exploratory
non-hypothetical investigation concerning fiscal effort
among school districts of different wealth.

As Johns has stated there is no agreement con-
cerning the most appropriate method of defining and
measuring "equalization of educational opportunity" and
only very limited agreement on defining and measuring
"fiscal equalization."(4) The notion of a "permissible"
or "allowable" variance is found in the work of Arthur
Wise(5) and also it is implied in some of the computations

of the National Educational Finance Project.(6) There are
several difficulties with the concept as Wise has himself
pointed out. First, no one can say with certainty how much
variation is "permissible." That is, we have no norms to
judge whether a state has, or has not, exceeded the limits
of "allowable" variation. As of this writing we have no
judicial pronouncement at the state level equivalent to
Judge Skelly Wright's ruling that there could be no more
than a five per cent variation between expenditure levels
of individual schools within a single school district.(7)
Second, and far more important, there is no agreement on
what to measure; that is, inputs such as expenditures,
services, tax rates, etc. or outputs such as achievement
test scores and continuation rates. Third, various
statistical techniques are available to monitor inequality
and each researcher seems to select that measure which is
most familiar to him.(8)

In spite of the limitations of the notion of
"permissible variance" we believe the concept has some
intuitive appeal to the Courts and to state legislatures
and have therefore used it in the Illinois studies.
Lacking a good output measurement in Illinois we selected
three input measures that will probably be of interest to
the Courts, e.g., expenditure per pupil, property valuation
per pupil, and two types of tax rates. Upon reviewing the

different types of statistics used to describe dispersion
in a set of data we find that the coefficient of variation,
that is, the standard deviation divided by the mean and
multiplied by 100 is the most popular choice and according-
ly have used that descriptive statistic in this portion of
the study.   In Illinois three types of districts are
present; elementaries, high schools, and units (K-12).
Since it would mix apples and oranges to pool these differ-
ent types, especially with regard to fiscal characteristics,
separate time series have been established for each district
type.

To frame a longitudinal hypothesis we have drawn
upon both studies of school finance in metropolitan areas,
and upon a single national study which provided evidence
on fiscal variation within each of the fifty states.   It
was over a decade ago that Jesse Burkhead established an
hypothesis of "increasing fiscal homogeneity" on the basis
of studies he had conducted in the Cleveland metropolitan
area.(9) Basically this hypothesis holds that with the
passage of time school districts will become more alike
with regard to expenditure levels, tax rates, property
valuations per pupil, and other fiscal characteristics.
This hypothesis assumes that the locational decisions of
business and industry, plus the movements of people in
selecting their places of residence will act, at least in

the long run, to level out fiscal differences between
school districts. Empirical support for this notion has
certainly been uneven, but it is not disproved at this
point in time.(10) Not an inconsiderable stumbling block
is an answer to the question of just what constitutes, "in
the long run"? Second, at the state level the most exten-
sive data on input variation within individual states
comes from the national study by Harrison and McLoone.(11)
This study concluded that we probably are moving toward
greater expenditure equality if the geographic area
studied was that of the entire United States, and the same
trend held for a majority of states. On the basis of
these prior studies of fiscal disparity, plus some random
speculation about the possible effects of collective bar-
gaining in recent years, we established an hypothesis of
decreasing fiscal inequality among school districts.

Our second hypothesis is drawn from literature and
Court decisions of more recent vintage. A number of recent
decisions have highlighted an emerging principle of "fiscal
neutrality."(12) In its most basic form this principle
holds that, "school district expenditure shall not be a
function of wealth other than the wealth of the state."
Unfortunately there has been more legal and philosophical
discussion of this notion than mathematical and statistical
specifications of the construct. A descriptive statistic

used extensively in the field of economics and known
variously as the "Gini Coefficient, Gini Index, and Index
of Concentration," is probably as acceptable as any other
measurement technique, and may have some advantages over
other techniques currently in use among fiscal analysts.(13)
The Gini numbers are purely relative; that is, they have
meaning only when comparing different years or different
distributions of funds within a single year. In general,
as these numbers become smaller there is more fiscal
neutrality in the state system, and as they become larger
there is less fiscal neutrality in the state system. A
graphic presentation of the data, the Lorenz curve, can be
used in conjunction with the Gini coefficient and when this
is done the diagonal 45 degree line represents complete
fiscal neutrality. This interpretation, however, depends
upon what variables are used on the vertical and horizontal
coordinates of that graph. Under certain situations, for
example when using state aid as one of the variables, the
larger the coefficient the greater the distribution of
funds to poorer districts. We have prepared an appendix to
this paper giving the mathematical derivation of the coeffi-
cient, an illustration of the curves, and the computational
procedure for those who are interested in such details.

To frame a longitudinal hypothesis we have relied
upon Coons, Clune, and Sugarman.(14) The investigations

conducted by these authors have led them to believe that
the political compromises necessary to pass formula legis-
lation result in distributions that are deliberately
"flawed," that is, distributions that give more funds to
the wealthier districts than the designers of the formulas
intended prior to the "horse trading" necessary in most
state legislatures. Similar conclusions are reached by
Grubb and Michelson.(15) We were unable to discover,
however, any empirical work which could cast light on
whether individual states were moving toward greater fiscal
neutrality or away from greater fiscal neutrality and hence
a further motivation for this paper. Persuaded by the
forceful rhetoric of advocates Coons, Clune, and Sugarman
we decided that the inevitable conflict between the affluent
schools and the poor schools probably produces something of
a "status quo" as far as the sharing of total expenditures
is concerned. Accordingly, we established an hypothesis of
no improvement in fiscal neutrality with the passage of
time.

Findings: Simple Disparity

        The results of the simple disparity analysis are
presented in figures one through four. The downward sloping
line in the graphs indicates that the value of the coeffi-
cient of variation has been falling and that school districts

in Illinois are becoming more alike with the passage of
time. In figure one we can see that this is true for
current operating expenditures per pupil especially for the
period 1965 through 1971. In an area that sorely needs
some good news we are pleased to indicate this fairly
optimistic finding. If expenditures are related to the
level of goods and services provided, and if these expendi-
tures make at least some small difference in students'
achievement then there was probably greater equality of
educational opportunity at the end of the period in Illi-
nois than at the beginning of the period. These are, to
be sure, monumental ifs, and current research does not
reassure one that the assumptions are valid.(16) Nothing
here tells us why expenditures are becoming more alike among
school districts, only that they are. Figures two and three
tell us that the same phenomenon has occurred relative to
tax effort. There is therefore less tax inequality at the
end of the period than at the beginning of the period.
The current very strong demand for local property tax re-
lief in Illinois may well be more of a response to the
overall level of taxes than to the inequality of tax effort
among districts.

One causal element we can at least rule out at this
point. Both the phenomena of decreasing disparity in
expenditures and decreasing disparity in tax effort could

be taking place if school districts were becoming more
alike with regard to wealth as measured by property valua-
tion per pupil. However, the data of figure four suggest
that this is probably not an important factor. Unit dis-
tricts were about as unequal with regard to wealth at the
end of the time period as they were at the beginning of the
time period and elementary districts were more unequal with
regard to wealth than they were at the beginning of the
time period. Only the high school districts illustrate a
reduction of variation in wealth. Parenthetically this
also tells us that if the goal of the school district
reorganization in recent years in Illinois has been to re-
duce wealth disparities that reorganization has succeeded
only with regard to high school districts. Of course the
variance in property valuations among school districts is
affected by complex locational decisions of individuals
and corporations and not solely by school district reorga-
nization.

We find, therefore, that our first hypothesis is
supported with regard to expenditures and tax effort but
not with regard to property valuation per pupil. At least,
the evidence on this last variable is mixed. This leads
us to speculate that the forces working to equalize
expenditures and tax effort may not be related to those
forces affecting property valuations per pupil. It is
entirely possible that some sort of "demonstration effect"

enhanced now by more rapid means of communication is causing school district expenditures to become more alike with the passage of time. Speculation of this sort was advanced some time ago by Benson.(17) It is also possible that collective bargaining by teachers organizations plays an important role in this increasing equality of expenditure levels. News concerning salary settlements travels very fast in Illinois and this may well have had an overall leveling effect on expenditures throughout the state. Of course, we have no way of testing such speculation within the design of the investigation reported here.

Findings: Fiscal Neutrality

Figures five, six, and seven illustrate the data on fiscal neutrality. Gini coefficients were computed for both locally raised revenue and for the combination of state funds plus locally raised. Thus the difference between the upper and the lower lines on the graphs represent the contribution state funds have made to fiscal neutrality at any given point in time. The lower the Gini value, the greater the fiscal neutrality with absolute fiscal neutrality constituting the base of the vertical axis. In a rather loose sense, the upper line represents what the fiscal neutrality picture would have been like had there been no state aid at all and expenditures had been a function

entirely of local wealth variations and local willingness
to spend. The values of the Gini coefficients we hav
computed for Illinois tend to be slightly smaller tha..
those reported for fifteen other states by Grubb and
Michelson.(18) For example, these researchers report a
Gini value of .0792 for Louisiana in 1969. Our comparable
Gini values for Illinois for the same year are: .0314 for
units, .0513 for elementaries, and .0595 for high schools.
However, some differences in defining state or local funds,
or some computational differences, could well account for
differences of this magnitude and we would therefore be
hesitant to draw any conclusions from the smaller size of
the Illinois coefficients.

As was expected the greatest departure from abso-
lute fiscal neutrality occurred among the elementary dis-
tricts in Illinois. It happens that the 1969 data cited
above are an exception to this rule. Returning for a
moment to figure four one can easily see why this would
probably be true; e.g., the local wealth variation is much
greater for elementary districts in Illinois than for unit
districts and high school districts. A decreasing fiscal
neutrality due to local wealth and/or local willingness to
spend variations can be documented for high school districts
and elementary districts but an increasing fiscal neutrality
caused by local wealth and/or willingness to spend

variations can be observed for unit districts. That is, the upper lines in figures five and six are positively sloped while the upper line in figure seven is negatively sloped. However, our interest in these upper lines is not nearly as great as is our interest in the bottom lines which display the combined effects of both state and local funds. Federal aid is not reflected in any of the data reported here.

Figure six shows a slight improvement in fiscal neutrality for students in elementary districts in Illinois during the period under investigation; however, all of this improvement was prior to 1968 and there has been no improvement since that date. Figures five and seven indicate virtually the same amount of fiscal neutrality for students in unit districts and high school districts at the end of the period as existed at the beginning of the period. We thus believe that our second hypothesis has also been sustained. There has been no marked improvement in fiscal neutrality, at least as we have operationally defined this concept, in Illinois during the years from 1965 to 1971. It should be stressed that the data displayed in figures five, six, and seven are intended to cast light upon the combined effect of both state and local funds since the formulation, "expenditure shall not be a function of wealth, other than the wealth of the state," is also focused

upon this combined effect. However, the legislature may

well be interested in the effect of the state funds alone,

particularly in the effect of the general purpose grants-

in-aid which, in most states, are deliberatel ..   'd to

be "equalizing" in their effect.(19) The data .. layed

in figure eight casts some light upon this subject.

As indicated in the appendix placing state aid on

the vertical axis rather than revenues from a given source

results in a different interpretation of the Gini coeffi-

cient. In this particular case, the higher the value of

the coefficient, the greater the proportion of funds being

directed to the poorer school districts. As can be

observed from figure eight the trends have not been the

same for all three categories of school districts in Illi-

nois. The students in the poorer high school districts

have been receiving a greater share of state aid with the

passage of time. However, the students in the poorer

elementary districts and the poorer unit districts have

suffered a reduction in their share of state aid. In an

earlier version of this paper we concentrated solely upon

the poorest quartile of students with essentially the same

results.(20)

A very interesting phenomenon can be observed here

that probably applies to other states which have separate

elementary, secondary, and unit districts; i.e., the

so-called "dual district" states. During the period under

analysis in Illinois the foundation level was raised

faster than the qualifying rate. Most observers of the

"foundation" grant-in-aid systems would predict t' t when

this phenomenon occurs the poorer stude.   ⊥.   ive a

smaller percentage of state aid since more wealthy dis-

tricts are becoming entitled to equalization grants. That

has, indeed, happened in Illinois for students in unit

districts and in elementary districts. However, this very

same phenomenon has had exactly the opposite effect for

students in high school districts. Raising the foundation

level and holding the qualifying rate constant or at least

not raising the rate very much has placed funds into some

of the poorer secondary districts since these poorer

secondary districts are toward the upper half of the over-

all wealth distribution. This largely unintended conse-

quence is unfortunately typical of the complexities found

in the so-called "dual district" states and makes rational

state fiscal planning very hazardous in these states.

Findings: Fiscal Effort

The Advisory Committee invested a good deal of its

time exploring the concept of "equal expenditure for equal

effort.(21) A large number of formulae which allowed

districts to receive funds in proportion to their local tax

effort were constructed and then simulated by computer.
It was therefore logical for the Committee to ask, "will
any of these effort formulae help poor districts?"
Longitudinal data of the type reported here can not really
answer this type of question very well. The adoption of a
completely new formula brings into being forces that were
simply not there before. That is, the assumption under-
lying projections from a time series, i.e., that conditions
in the future will be similar to conditions in the immedi-
ate past, is very suspect. Nevertheless, we thought it
useful to at least look at some effort data in longitudinal
perspective.

Our procedure was similar to that reported in the
previous section. We ranked the districts from low to high
in terms of per student property valuations and then
cumulated by enrollments toward the top, breaking at each
quartile. Figures nine, ten, and eleven assemble tax rate
data by wealth quartiles for the period 1965 through 1971.
Each quartile consists of the districts which contain one-
fourth of the students ranked by wealth. The tax rates
indicated are weighted averages; that is, we took the
expenditures for all educational purposes in each quartile
and then divided by the total property valuation in that
quartile. The line at the bottom indicates the tax rate
difference between the richest quartile and the poorest

quartile.

The first relationship we can observe from figures nine, ten, and eleven is that the districts which contain the wealthiest quartile of students has the lowest tax effort, and the poorest quartile has the highest tax effort. In fact, with a few exceptions, e.g., prior to 1967 for unit districts, and in 1971 for high school districts, this relationship of wealth to tax effort has been similar every year since 1965. One could therefore conclude that the immediate or short-run effect of adopting a formula which was weighted heavily for local district tax effort would be to put more funds into the poorer districts. We are, however, also interested in trends through time. Here the results are not quite so reassuring, if the goal is greater equalization. For unit districts and for high school districts the difference between the wealthiest quartile and the poorest quartile has been fairly constant during the period under examination. However, with regard to elementary districts the difference between the two quartiles has narrowed with the passage of time, and one can see by inspection of figure ten that this was due to increased effort by the wealthier quartile since 1968. Figure eleven also reveals a strong upward thrust of effort from the second wealthiest quartile of the high school districts. Thus there is a modest indication in the data that

the wealthier of the so-called "dual districts" in Illinois
have been exerting greater effort with the passage of time.

Critics of "effort" formulae, also called "incen-
tive" or "stimulation" or "district power" formulae, allege
that when a bonus is placed into the formula to reward
local effort it will be the wealthier districts that will
respond to the stimula rather than the poorer districts.(22)
It is difficult to subject this notion to a direct test.
About all we are prepared to do at this point is to hazard
a guess that the initial or short-range effect of the
adoption of an effort formula would be to help poorer
districts but that this gain in equalization might be
greatly weakened at some later point in time as the richer
districts begin to exert greater effort. Effort formulae
will probably become a popular means by which states seek
to meet court decisions. When challenged, a state will
allege that its formula does not make expenditures a
function of local wealth, but rather a function of willing-
ness to exert tax effort for education. The various effort
formulas can be slowly adjusted to the point where any two
districts exerting the same tax effort can have almost the
same expenditure level. Technically they can be adjusted
so that any two districts have exactly the same expenditure
levels but this procedure is usually too costly to the
state. However, if willingness to tax and wealth are highly

correlated then an application of the Gini coefficient as
described in the previous section will still show a lack of
fiscal neutrality <u>even if an effort formula has been</u>
<u>adopted by the legislature</u>. Effort formulae are no
panacea; at best they may provide a convenient resting station
on the way from where we are now toward full state
funding.

Conclusions and Qualifications

The observed reduction in disparity among school
districts relative to expenditure levels and tax rates is
a good omen as this state, along with others, awaits the
Courts' pleasure in <u>Rodriguez</u> and similar cases. However,
we can find little evidence to indicate that this reduction
in disparity in expenditure and tax rates was the intended
result of deliberate state fiscal policy. To the contrary,
there is some evidence that the students in the poorer dis-
tricts of Illinois have fared worse in recent years rela-
tive to their share of state aid. It is also clear that
Illinois was not much closer to fiscal neutrality in 1971
than it was in 1965. It is more apparent to us now than it
was when we started this investigation that the two con-
cepts, "permissible variance," and "fiscal neutrality," are
more dissimilar than they are similar. Variance in
expenditures could be decreasing but that variance could

still remain a function of local wealth and/or local will-
ingness to spend. If the Courts are really intent upon
establishing fiscal neutrality then it appears to us that
the Gini coefficient would be a more appropriate criterion
than any measurement of simple dispersion.

As usual, there are unresolved measurement problems
in this area of school finance research as in most other
areas. For example, it is difficult to compare the results
of an analysis with the coefficient of variation with the
results of an investigation with the Gini coefficient when
one method uses the district as the unit of analysis and
the other uses the student as the unit of analysis. As
indicated in the appendix, the horizontal axis is the
cumulative ADA as ranked by wealth not the cumulative count
of districts. That is, we are analyzing what proportion
of expenditures, or in a few cases what proportion of state
aid has been accorded to the poorest 10 per cent, 15 per
cent, 20 per cent, etc. of students rather than the poorest
10 per cent, 15 per cent, 20 per cent, etc. of districts.

A much more serious qualification lies in the
specification of district wealth. The "poorest" students
are defined in this paper as poor in terms of the property
valuations per pupil of their district. One has only to
reflect upon the fact that in Illinois the city of Chicago
is in the upper half of the per pupil property distribution

to realize that most of the efforts to aid Chicago, for
example the inclusion in the general aid formula of a bonus
for large districts, would have the effect of decreasing
the measurement of fiscal neutrality as it has been defined
and used here. When income data is available for each
school district in Illinois a different specification of
wealth can be used and new Gini coefficients will then need
to be computed using this different measurement of wealth.
Unfortunately, obtaining a reliable measure of income among
school districts for one point in time has been a very slow
process and it may be a very long, long time indeed before
we have a reliable time series of income data for each
school district in the state; if indeed we ever have such
measurements.

In conclusion we wish to specifically disavow any
usage of these data to justify some philosophy of "benign
neglect" on the part of any branch of Illinois state
government. In the first place we doubt very much that the
students in the poorer districts of this state will be
willing to wait for unassisted market forces to level out
expenditures and tax rates. Such a process might take
decades. Secondly, we believe that the goal of fiscal
neutrality is just as compelling if not more compelling
than the simple reduction of fiscal disparities among
school districts. Regardless of the outcome of current

litigation on this subject, it appears to us that the
determination of service levels by the wealth of a local
district is not functional to the larger body politic and
we have said this in many ways, for many years.(23)

Notes and References

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2. See for example, Judge Alexander Harvey's opinion in *Parker v. Mandel*, U.S. District Court for the District of Maryland, June 14, 1972.

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12. See especially Serrano v. Priest, Van Dusartz v.
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19. Just how "equalizing" the present general purpose state grants-in-aid really are, is, at least in this author's opinion, still an unanswered question. Probably we will never answer the question until we get more agreement on how to define and measure "fiscal equalization." For a range of different approaches to this basic problem see Johns, Roe L. et al., *Status and Impact of Educational Finance Programs*, 1971, National Educational Finance Project, Gainesville, Florida; Hickrod, G. Alan, Chaudhari, Ramesh, and Tcheng, Tse-Hao, *op. cit.*; Grubb, W. Norton and Michelson, Stephan, *op. cit.*; McLure, William P. et al., *Education for the Future of Illinois*, 1966, OSPI, Springfield, Illinois.

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Area B is the area under the curve and if n is the number of districts, and

$$x_i = \text{cumulative proportion of ADA for the ith district}$$
$$y_i = \text{cumulative proportion of \$ for the ith district}$$

Then Area B $= \displaystyle\sum_{i=1}^{n} \frac{(x_i - x_{i-1})}{2}(y_{i-1} + y_i)$

or 2 Area B $= \displaystyle\sum_{i=1}^{n} (x_i y_{i-1} - x_{i-1}y_{i-1} + x_i y_i - x_{i-1}y_i)$

$= (x_i y_0 - x_0 y_0 + x_1 y_1 - x_0 y_1$

$\quad + x_2 y_1 - x_1 y_1 + x_2 y_2 - x_1 y_2$

$\quad + x_n y_{n-1} - x_{n-1}y_{n-1} + x_n y_n - x_{n-1}y_n)$

$= (x_2 y_1 - x_1 y_2) + (x_3 y_2 - x_2 y_3) + \ldots$

$\quad + (x_n y_{n-1} - x_{n-1}y_n) + x_n y_n$

$= \displaystyle\sum_{n=2}^{n} (x_i y_{i-1} - x_{i-1}y_i) + 1 \qquad\qquad (2)$

$= 1 - \displaystyle\sum_{n=2}^{n} (x_{i-1}y_i - x_i y_{i-1})$

substituting the value of area B in eq 1

$$G = \sum_{n=2}^{n} (x_{i-1}y_i - x_i y_{i-1}) \qquad\qquad (3)$$

<u>Gini Coefficient for State Aid</u>:
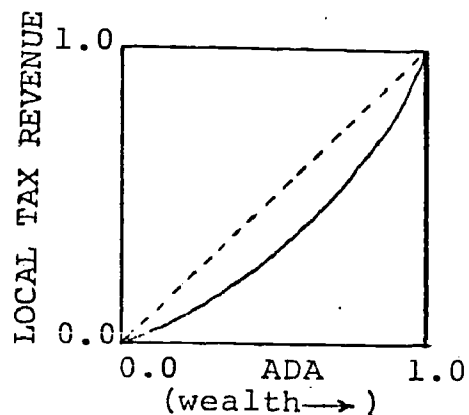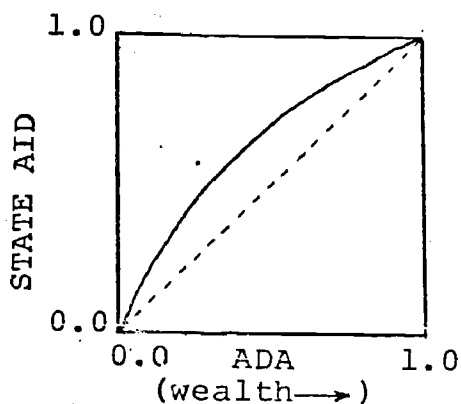
APPENDIX A

COMPUTATION OF GINI COEFFICIENT

For measuring equalization, the districts are sorted in ascending order of wealth which is defined as assessed valuation per pupil in Average Daily Attendance. The cumulative proportions of total operating expenditures accounted for by these districts are represented by the vertical axis. The curve thus plotted
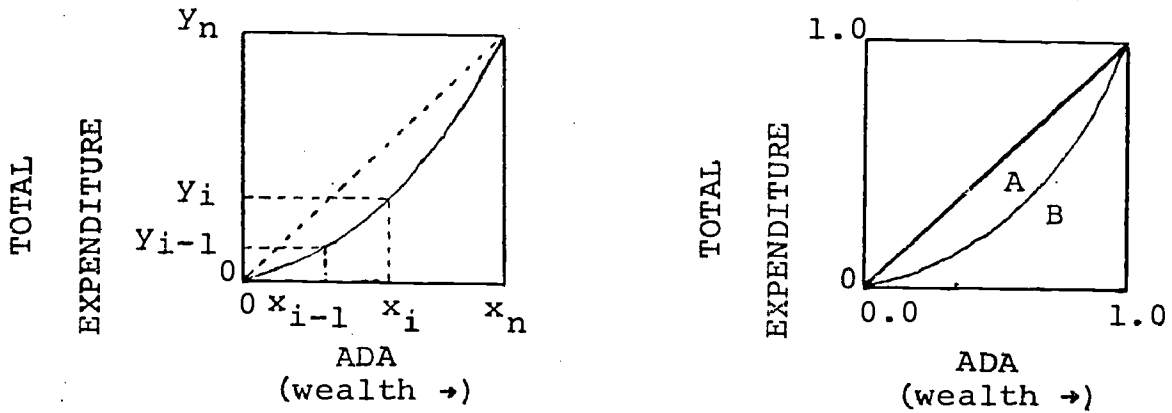
would be a straight line at 45° to both axes if the total operating expenditures were equal in all districts--poor as well as wealthy. However, a sagging curve represents lesser expenditures in poor districts and suggests some inequity. The measure of this inequity as defined by gini coefficient G is given by the formula:

$$G = \frac{\text{Area A}}{\text{Area (A+B)}}$$

or after further simplification

$$G = \frac{0\cdot5 - \text{Area B}}{0\cdot5}$$

$$= 1 - 2 \text{ Area B} \qquad (1)$$

Since poor districts get more state aid than wealthy districts, the curve in this case will be above the diagonal and formula 3 would result in a negative value of G. To avoid confusion we reverse the sign of G to make it positive. However, Gini coefficient as applied to state aid must be interpreted differently. The higher the value of G in this case, the better it is for poor districts and the higher is the equalization. On the other hand higher values of Gini coefficients for total expenditure and local revenue indicate lesser equalization.

VARIATION OF PER PUPIL
OPERATING COST

$$V = \frac{ST.\ DEV.}{MEAN} \times 100$$
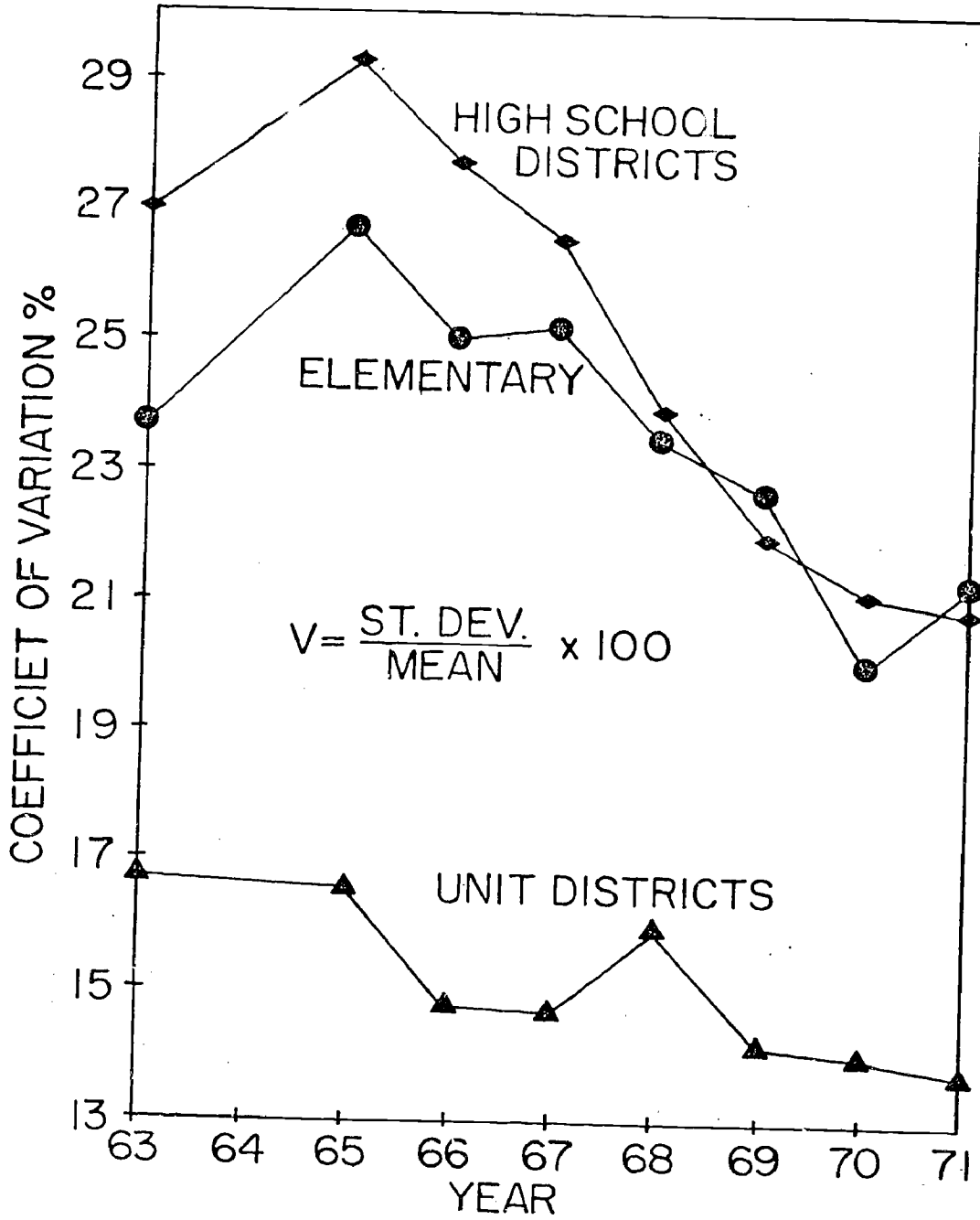
FIGURE 1.

VARIATION OF EDUCATIONAL TAX RATE
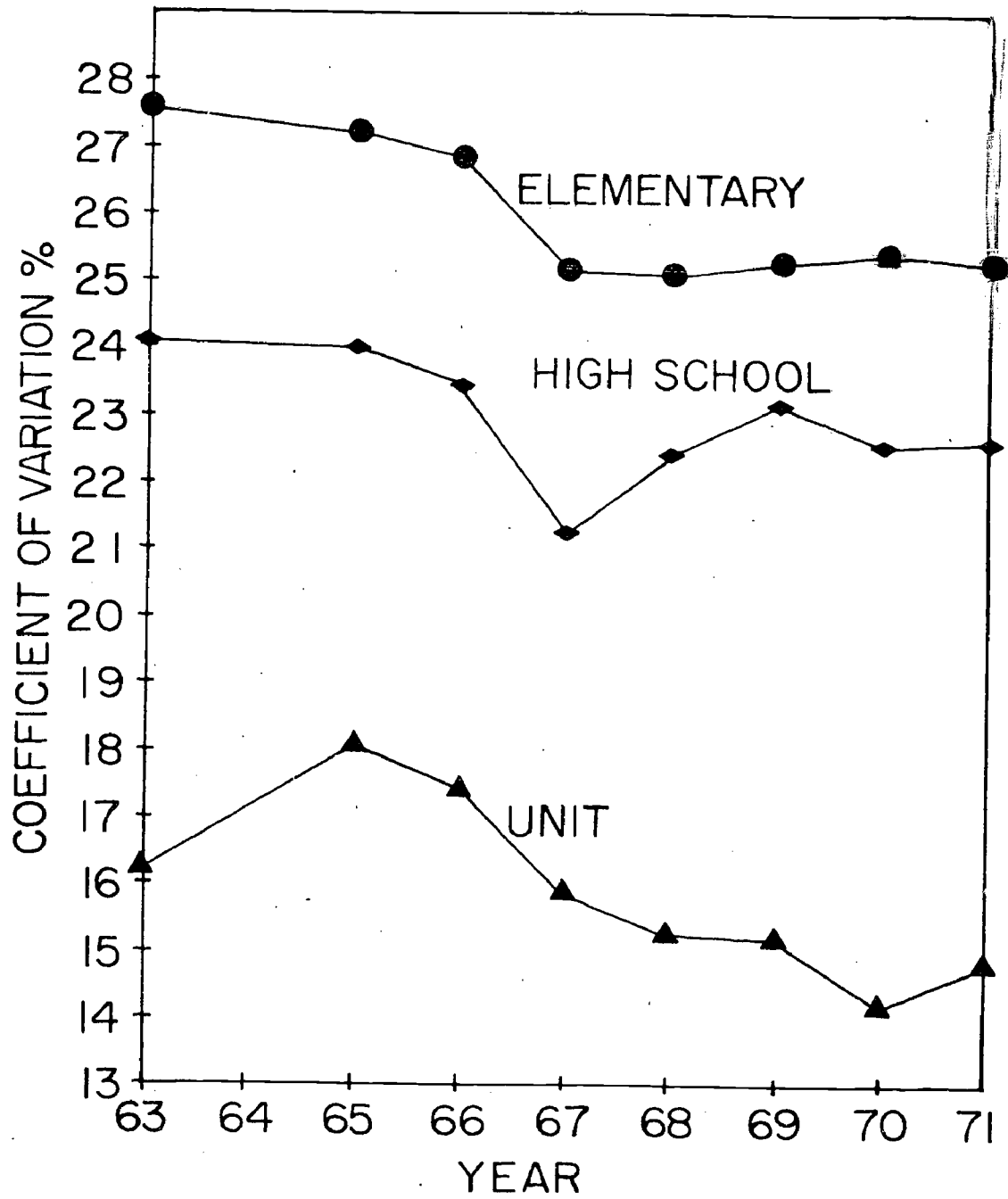
FIGURE 2.

VARIATION OF TOTAL
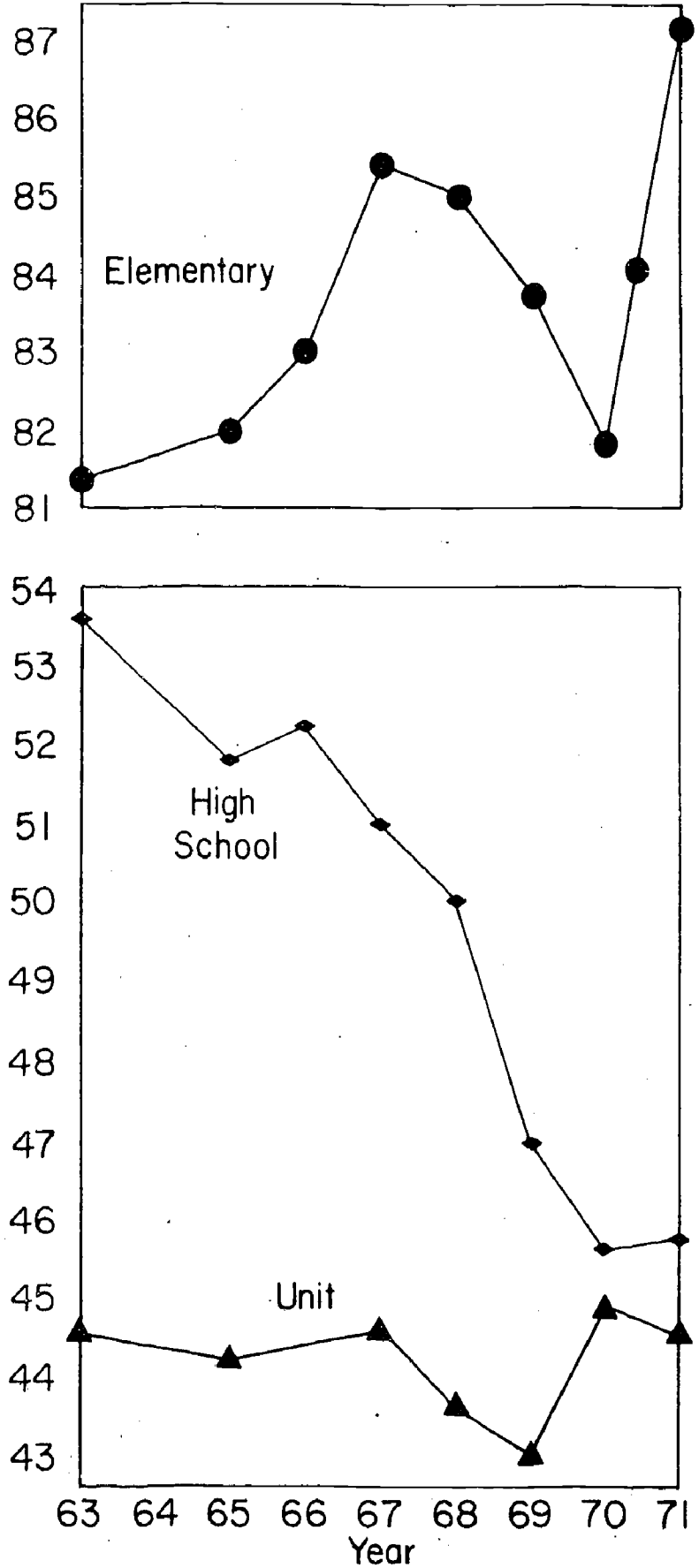TAX RATE
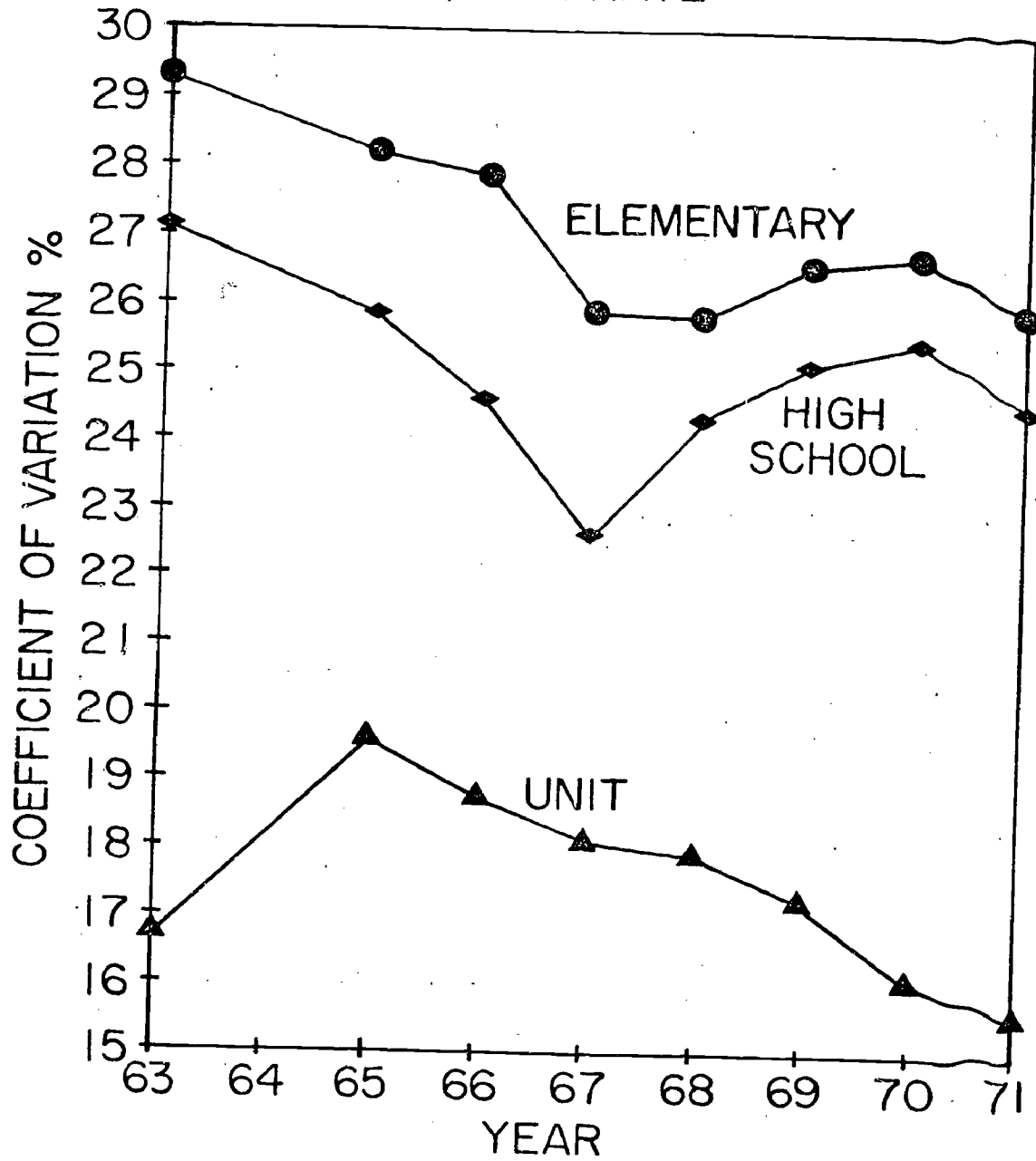
FIGURE 3.

Figure 4.

Gini Coefficients for High School Districts
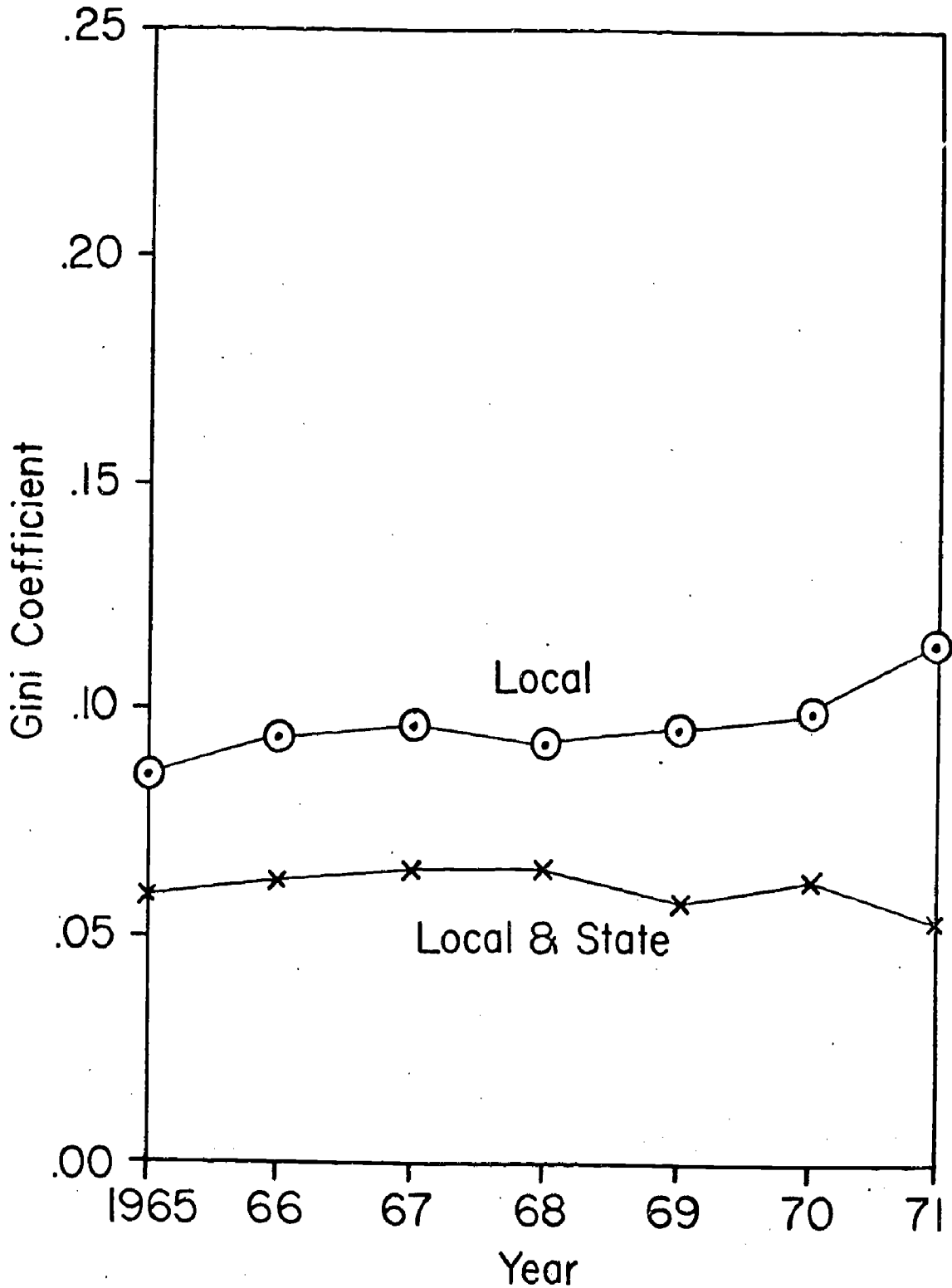

Figure 5.

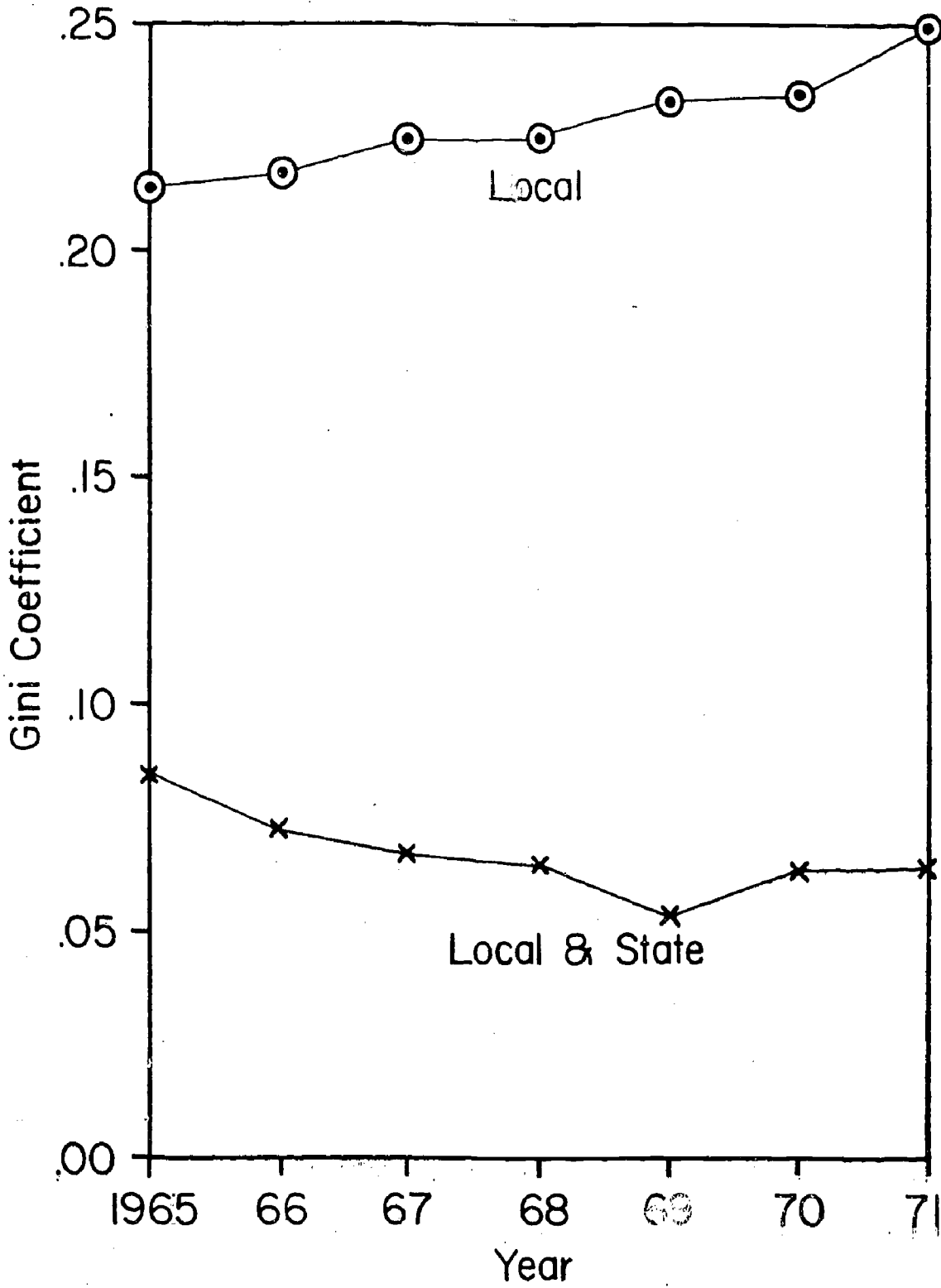# Gini Coefficients for Elementary School Districts
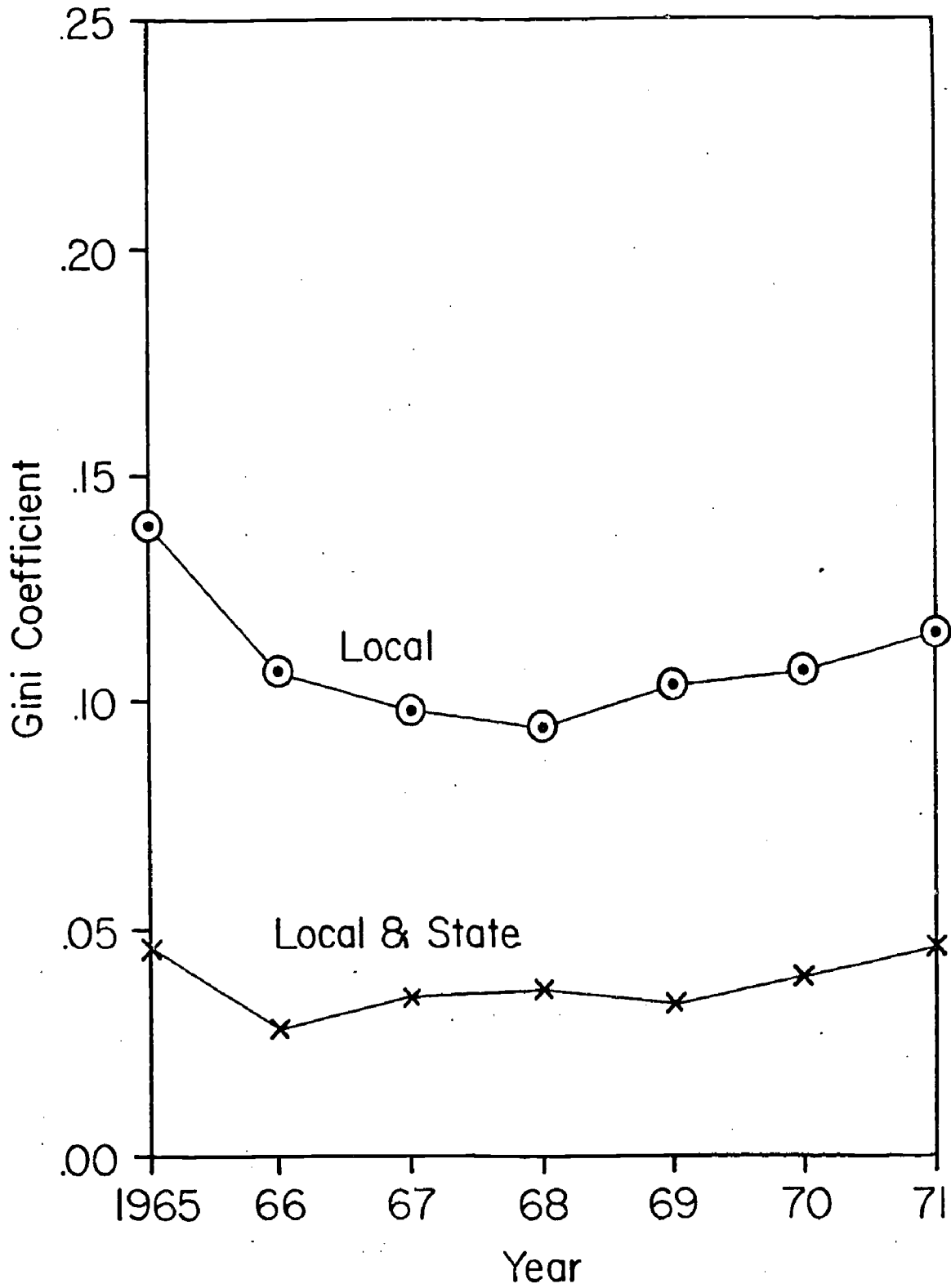

Figure 6.

Gini Coefficients for Unit Districts
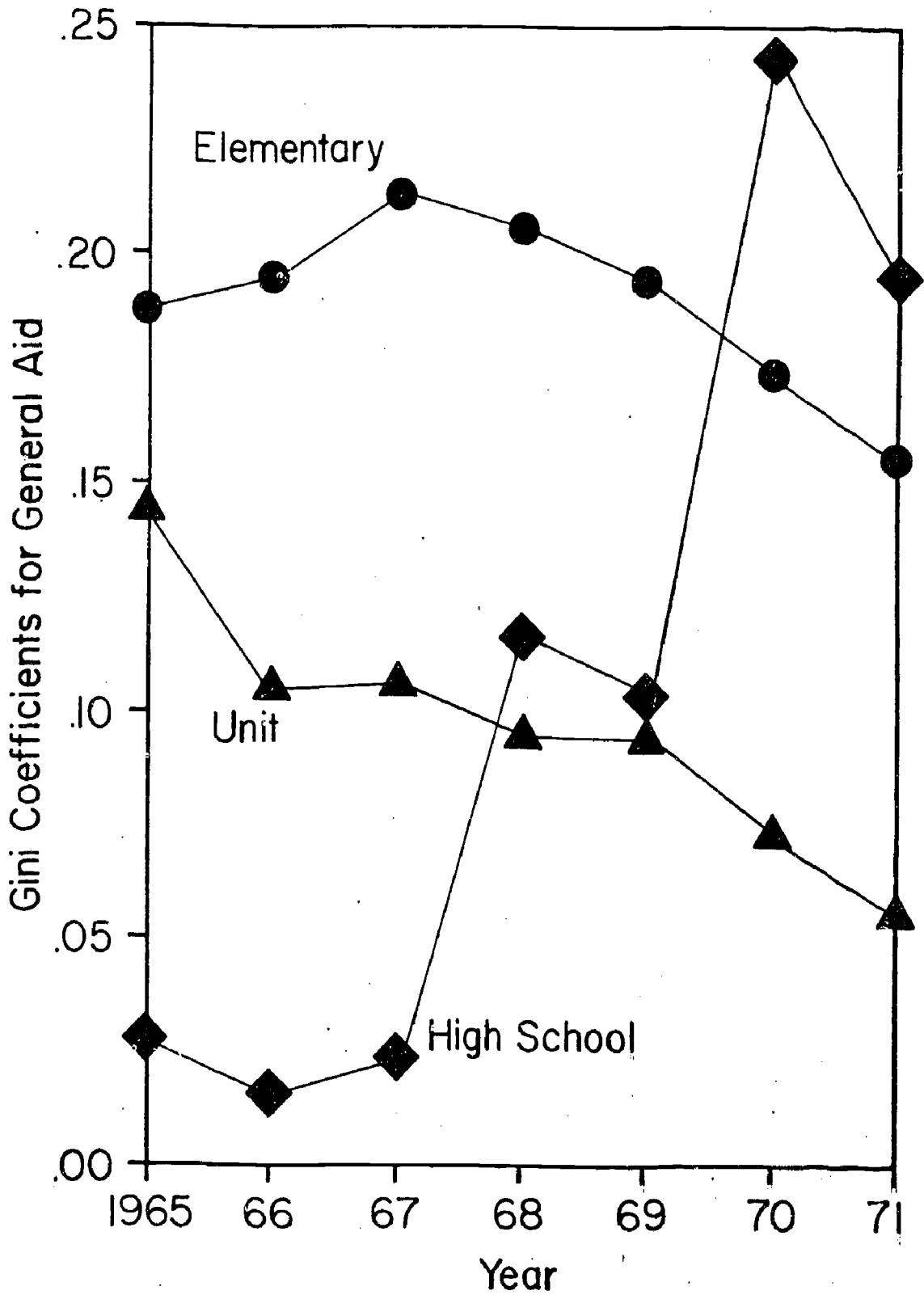

Figure 7.

Gini Coefficient for General Aid

Figure 8.

Average Total Tax Rates In Unit Districts
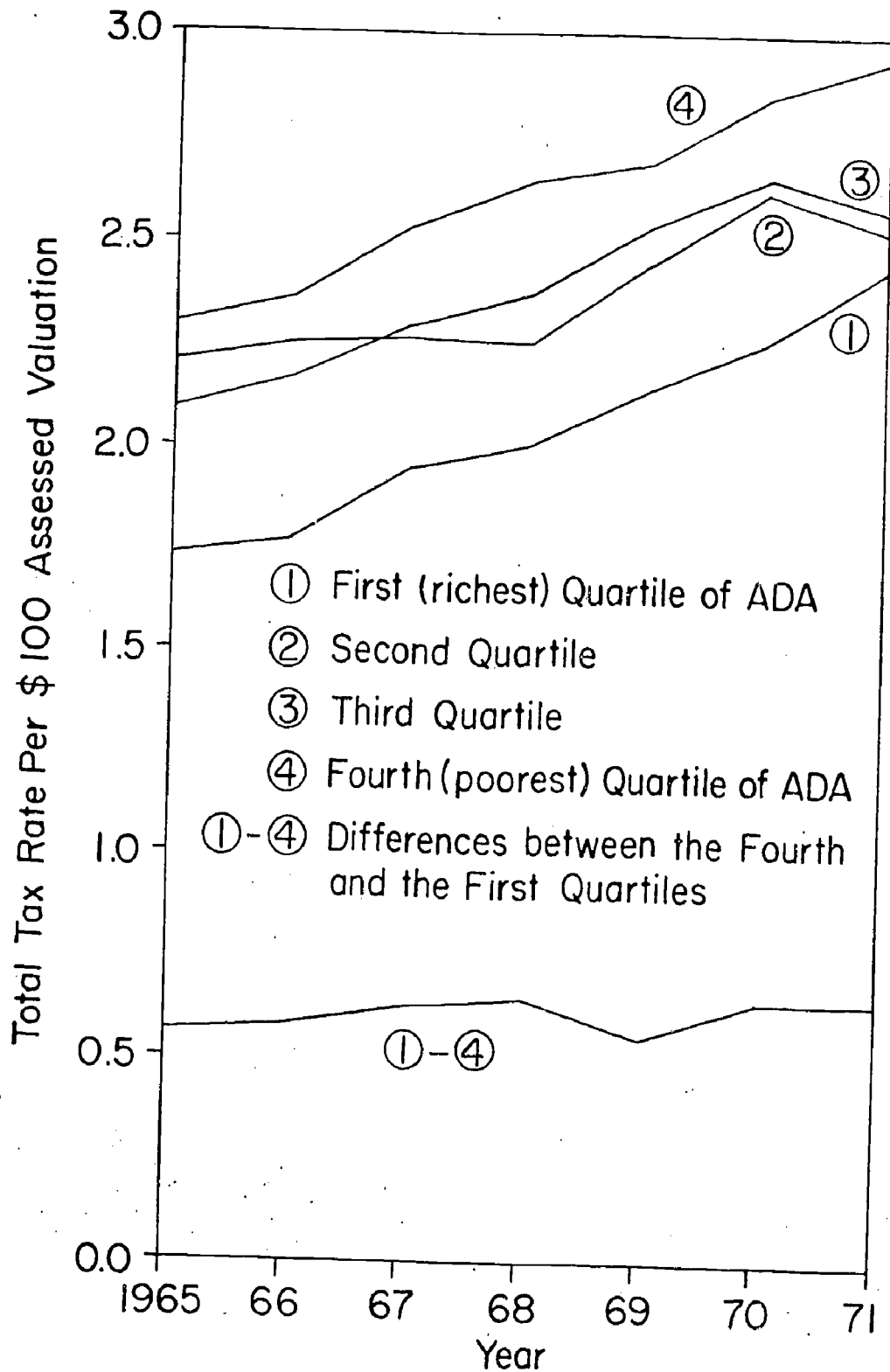## by Wealth Quartiles

① First (richest) Quartile of ADA

② Second Quartile

③ Third Quartile

④ Fourth (poorest) Quartile of ADA

①-④ Differences between the Fourth and the First Quartiles

Figure 9

Average Total Tax Rate In Elementary
School Districts by Wealth Quartiles

① First (richest) Quartile of ADA

② Second Quartile

③ Third Quartile

④ Fourth (poorest) Quartile of ADA

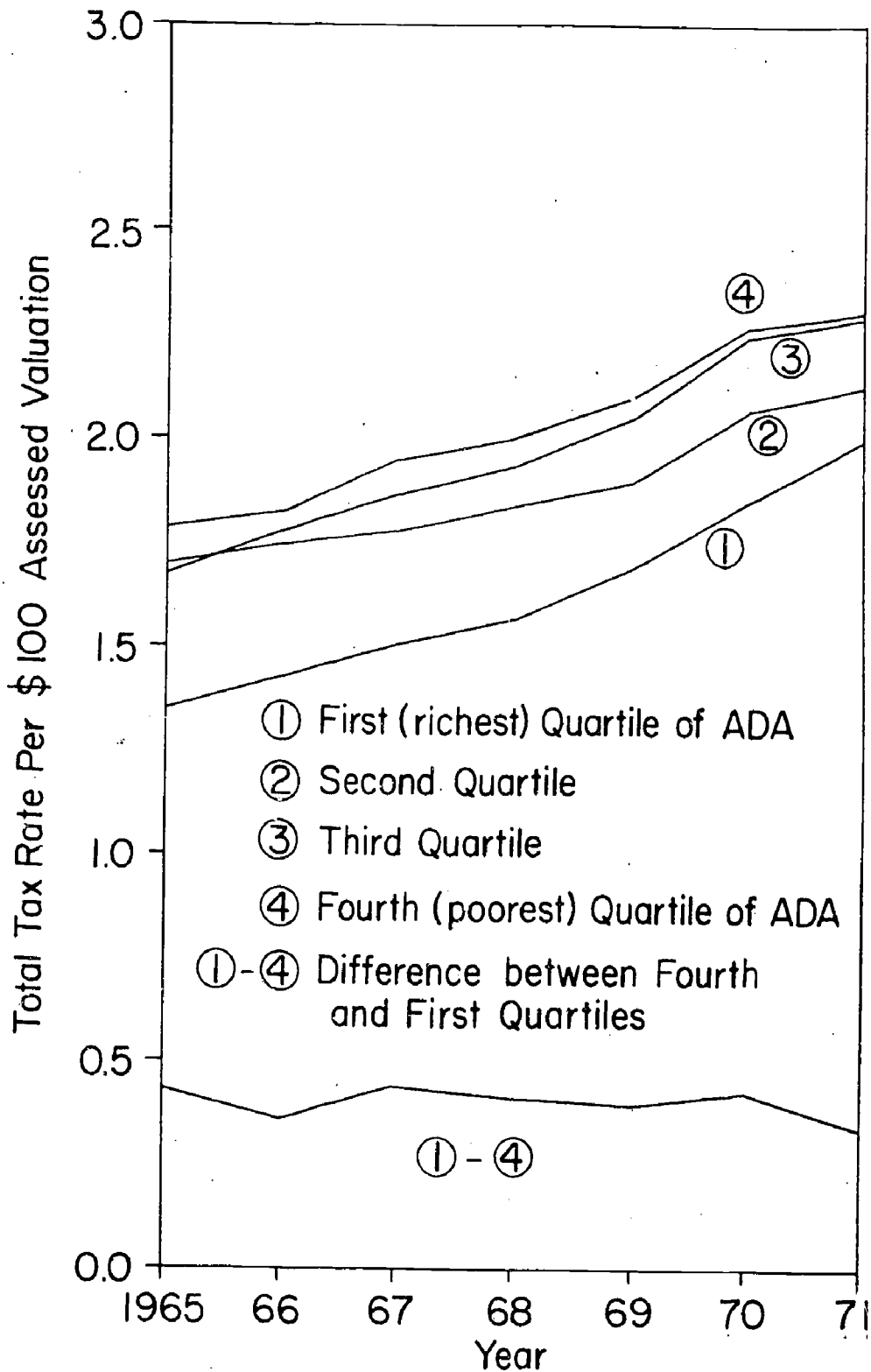①-④ Difference between Fourth
      and First Quartiles

Figure 10

Average Total Tax Rates In High School
Districts by Wealth Quartiles

① First (richest) Quartile of ADA

② Second Quartile

③ Third Quartile

④ Fourth (poorest) Quartile of ADA

①-④ Difference between Fourth
and the First Quartiles

④

③

②

①

① – ④

Total Tax Rate Per $100 Assesed Valuation

3.0

2.5

2.0

1.5

1.0

0.5

0.0

1965   66   67   68   69   70   71

Year

Figure II