

ALTERNATIVE MEASURES OF LOCAL CAPACITY TO  
SUPPORT PUBLIC EDUCATION

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For more than a century it has been one of the objectives of Commonwealth policy to provide for the equalization of educational opportunity on the elementary and secondary level. Throughout this period the Commonwealth has attempted, with varying degrees of success, to distribute subsidies in such a manner as to compensate for local differences in ability to finance the public schools. Local ability to finance public education depends in the main upon the relationship between the size of the pupil population that a school district is obliged to educate and the capacity of the district to provide the necessary funds.

Between 1921 and 1945 local capacity was measured in terms of "true value" of taxable real property. "True value" of taxable property was calculated by the Superintendent of Public Instruction by dividing the assessed-actual value ratio of taxable property as certified to him by local school board secretaries into the assessed valuation. Under this procedure, local officials could generate higher school subsidies by certifying sufficiently high ratios. Examination of the record shows that it was common practice for many local officials to certify higher assessed-actual value ratios each year. When local officials attempted to certify ratios in excess of one, the superintendent issued an order that such certifications were not to be used in establishing "true value."

The widespread inequities, generated by a reimbursement system which, in effect, permitted local school officials to determine the amount of Commonwealth subsidies, became increasingly apparent. In 1945 the legislature abolished the existing school subsidy system and prescribed a new formula for the distribution of Commonwealth subsidies. During the period 1945 to 1947, the new formula used assessed valuations as determined for county tax purposes as the measure of local capacity. In 1948 the market value of taxable real property as determined by the newly-created State Tax Equalization Board was substituted for assessed valuations.

Procedures of the State Tax Equalization Board used to determine market values have changed over the period 1948-1962. Recent changes in board procedures and the consequent effects upon the amounts of school subsidies received by differently circumstanced school districts have aroused renewed interest in the adequacy of market values as a measure of local capacity to support public education.

In brief, between 1948 and 1952, the board calculated the annually certified market values of taxable real property by adjusting the market values certified for the previous year to account for any price changes, then adding the market value of additions to the tax rolls and subtracting deletions. Beginning in 1953 and continuing through 1957, the board carried forward the market values as certified for 1952 and annually adjusted these values only for additions to and deletions from the tax rolls. In other words, the board's certification throughout this period of predominantly rising prices failed to adjust the bulk of taxable real property in accordance with the changes in actual market values. Because rates of change in real estate values differed markedly among school districts, the board's 1953-1957 procedures favored some school districts and discriminated against others. Generally speaking, since real estate prices rose throughout the period, the procedures discriminated against rapidly growing urban and suburban school districts where the value of new construction was large relative to the value of taxable property on the rolls in 1952. On the other hand, school districts experiencing the same rise in real estate prices but with a lesser rate of growth in new construction were favored.

In 1958, cognizant of the growing disparity between actual market values and certified market values, the board reinstated the practice of adjusting market values for changes in real estate prices. Taking into account changes in real estate prices between 1952 and 1958, the aggregate market value for 1958 would have been in the neighborhood of \$38 billion as contrasted with \$31 billion, which was the aggregate market value certified for 1957. In an apparent attempt to avoid drastic reductions in Commonwealth subsidies consequent upon

a substantial increase in market values, the State Tax Equalization Board chose to reduce the market values as originally ascertained by 15 percent prior to certification. An administratively-promulgated uniform percentage reduction in market values is the equivalent of a legislative reduction in the local effort rate in the school subsidy formula. In dollar terms, the 15 percent reduction in market values generated about \$30 million a year in additional Commonwealth subsidy obligations. Again, a straight cut of 15 percent of market values has a differential impact upon the amount of subsidies payable to different school districts. For a school district with a market value of \$100,000 per teaching unit, instruction subsidies would be increased by \$66 per teaching unit by virtue of a 15 percent cut in market value. In contrast, a school district with a valuation of \$800,000 per teaching unit would receive an increase in instruction subsidies per teaching unit of approximately \$525.

In the case of districts characterized by a large divergence between actual market values and the market values certified for 1957, use of the 1958 market value certifications would have resulted in substantially lower school subsidies for 1959–1960. Inasmuch as many districts were faced with unexpected reductions in school subsidies, the 1959 General Assembly elected to provide for a period of adjustment by the passage of Act No. 569 (1959, Nov. 2, P.L. 1589) which provided, in effect, that subsidies for 1959–1960 should be based upon the market value certified for 1957 or for 1958, whichever was lower.

In 1959 the State Tax Equalization Board Act was amended (1959, Dec. 30, P.L. 2072) to provide that certifications in even-numbered years should reflect only additions to and deletions from the property tax rolls. Hence, complete revaluations now are made only every other year. The net effect of this amendment during a period of rising real estate prices is to increase school subsidies beyond what they would be if annual revaluations had remained the rule. In addition, the amendment will generate more abrupt changes in certified market values unless real estate prices remain unchanged. Biennial revaluations, however, offer administrative advantages. The technical difficulties associated with annual revaluations of real property in some 2,000 school districts are formidable.

A community's capacity to finance public education—or for that matter any other function—depends upon the resources at the command of the community. The resources at the command of the community can be alternatively *approximated* in terms of the income of the members of the community or in terms of the property located within the community. If capacity is measured in terms of income, the value of property located within a community but owned by nonresidents is not reflected in the measure. If capacity is measured in terms of property, the incomes of residents with atypical relationships between income and property would be differentially reflected in the measure. Hence, ideally the most comprehensive measure of a community's capacity to finance a given service would be represented by an appropriately-weighted combination of the income of its residents and the value of property owned by nonresidents. It is not feasible, on the basis of available data, to construct this inclusive measure of financial capacity. The choice between income and property values as the best approximation to an ideal measure of capacity can be made on the basis of administrative practicalities (including availability of data) if income and property values are strongly correlated. The evidence suggests that the market value of taxable real property is, generally speaking, closely related to income, the degree of relationship depending upon the definition of income employed and the size of the community.

The relationship between a measure of income and a measure of market value is shown on Charts I and II. On Chart I are plotted for each county in Pennsylvania the income of residents as recorded in the 1960 Federal Census and the market value of taxable real property as certified by the State Tax Equalization Board. Increases in market values are closely associated with increases in income of residents, although there is some dispersion around the line of relationship. Data similar to that contained in Chart I are plotted on Chart II for the 154 communities in Pennsylvania of more than 10,000 population. Again, the chart indicates that market value and income of residents are strongly correlated. Analysis of

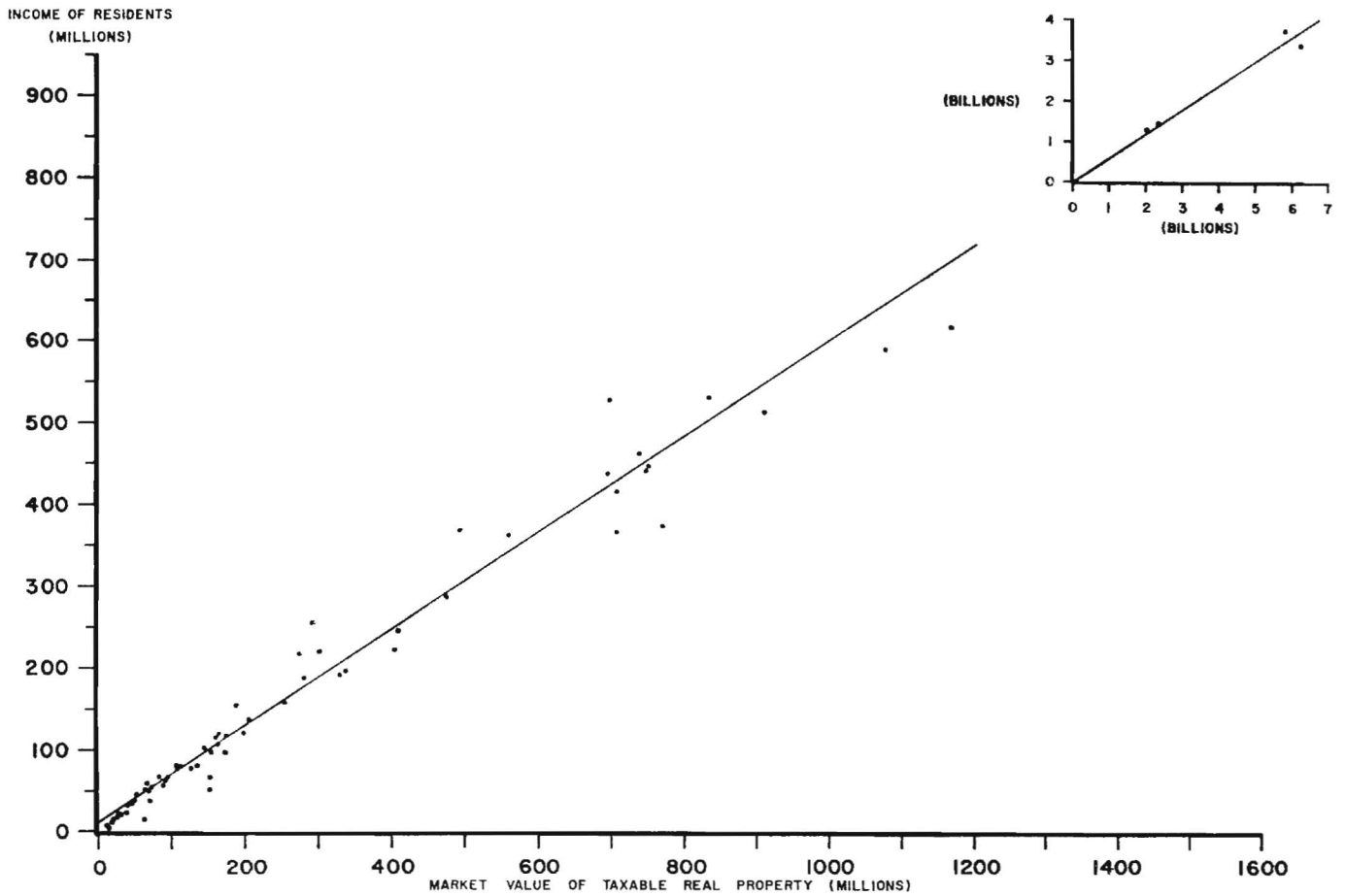
the data plotted on Chart II indicates that the strength of the relationship between income and market value increases as the size of the community increases. For the communities plotted in Chart II with a population exceeding 30,000, which are synonymous with first and second class school districts, the correlation co-efficient is .998; for second class school districts alone the correlation co-efficient is .959; and for communities with a population between 10,000 and 30,000, which are school districts of the third class, the correlation co-efficient is

.845.<sup>2</sup> It is to be expected that the relationship between market value and income would be much weaker for districts with a population below 10,000 for which comparable income data are not available.

<sup>2</sup> The regression equations for these three sets of districts are (all measures in millions of dollars): First and second class:  $\text{Income} = .64 \text{ Market Value} - 4.8$ ; second class districts:  $\text{Income} = .62 \text{ Market Value} + 3.4$ ; districts with a population between 10,000 and 30,000:  $\text{Income} = .37 \text{ Market Value} + 11.1$ .

Chart I

RELATIONSHIP BETWEEN MARKET VALUE OF TAXABLE REAL PROPERTY AND INCOME OF RESIDENTS IN PENNSYLVANIA COUNTIES: 1959



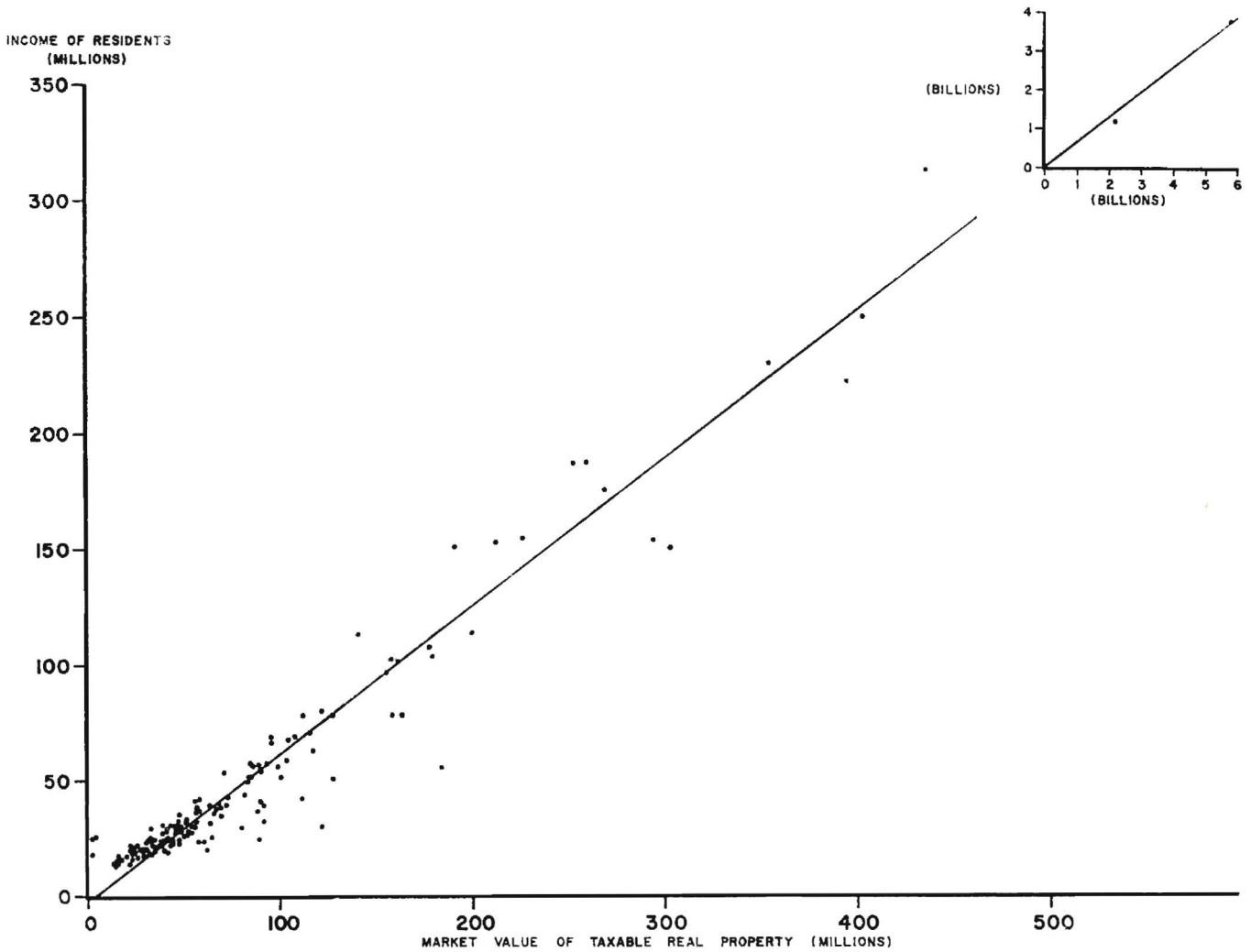
Regression equation:  $\text{Income} = .59 (\text{Market Value}) + 11.1$ .  $r = .995$

Under the provisions of Act No. 561,<sup>3</sup> if effectuated, school districts in the future will be substantially larger than they have been in the past. The technical task of

determining accurate market values will be considerably facilitated as size of school district increases. One of the greatest deterrents to an accurate determination of market values has been the inadequacy of sufficient reliable information to establish market values for the large number of small school districts.

<sup>3</sup> 1961, September 12, P. L. 1283.

Chart II  
 RELATIONSHIP BETWEEN MARKET VALUE OF TAXABLE REAL PROPERTY  
 AND INCOME OF RESIDENTS IN 154 PENNSYLVANIA SCHOOL DISTRICTS: 1959



Regression equation:  $\text{Income} = .64 (\text{Market Value}) - .29, r = .998$