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A Measure in Terms of Income of the Ability to Pay for Public Free Education, and of the Effort Exerted by the Counties and Cities in Virginia, School Year 1947-1948

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A MEASURE IN TERMS OF INCOME OF THE ABILITY TO PAY FOR PUBLIC FREE EDUCATION, AND OF THE EFFORT EXERTED BY THE COUNTIES AND CITIES IN VIRGINIA, SCHOOL YEAR 1947 - 1948

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TABLE OF CONTENTS

CHAPTER		PAGE
I.	INTRODUCTION	1
	Statement of the Problem	1
	Scope and Limitations	1
	Importance of the Study	3
	Source of data and Procedure	6
	Survey of Related Material	7
	Organization	18
II.	THE DATA AND ITS ANALYSIS	19
III.	COMPARISON OF THE FINDINGS WITH A STUDY BASED ON WEALTH	28
IV.	SUMMARY AND CONCLUSIONS	38
BIBLIOGRAPHY		45
APPENDIX		50
VITA		55

LIST OF TABLES

TABLE		PAGE
I.	Indication of ability and effort of Counties and Cities in Virginia to support Public School Education, 1947 - 1948, Calculated on the Basis of Income (Counties and Cities arranged according to Rank in Ability to support Education).	20
II.	Comparison of Effort Exerted for Public Free Education, per $100 of Income with Effort Exerted per $100 of Wealth in Virginia Counties and Cities for the School Year 1947 -1948 (Counties and Cities arranged alphabetically).	30
III.	Basic data in Relation to local Financial Ability and Effort to Support Free Public Education in Virginia, 1947 - 1948, as calculated on the basis of Income (Counties and Cities listed alphabetically).	50

CHAPTER I

INTRODUCTION

Statement of the Problem

The purpose of this study is (1) to find in terms of income, a measure of ability to pay for public free education and of the effort exerted by the counties and cities of Virginia during the school year 1947 - 1948, (2) to compare the resultant findings with a similar study based on wealth as reported by Dr. William H. Stauffer[1] in May 1949, and (3) to attempt to derive some conclusions as to the comparative merit of the two methods of computing ability to pay and effort exerted.

Scope and Limitations

The data used in this study consists of gross income, local expenditures for public free education, and average daily attendance of the public schools. From these data the ability and effort of the counties and cities to support public education will be calculated.

The study is limited to include only the counties and cities of the Commonwealth of Virginia and is concerned only with the school year 1947 - 1948. Public free education as used in this study is concerned only with the public elementary and secondary schools.

The validity of the study is limited to the accuracy of the data which were obtained from the Annual Report of the Superintendent

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1 William H. Stauffer, "Local Effort for School Operations in Virginia Counties and Cities, 1947-1948", (Richmond, Va.: Newspaper Article, Richmond Times Dispatch, May 8, 1949, Section IV. p. 1.

of Public Instruction in Virginia[2], 1947 - 1948, the "Survey of Buying Power" as printed in Sales Management[3], May 1948, and the Virginia Economic Review[4], July 1949.

With reference to the validity of gross income data obtained from Sales Management, the following statement was printed in May, 1947 issue[5]:

> During the past year the use and acceptance of the Survey of Buying Power has become even more widespread among manufacturers, advertising agencies, state and Federal bureaus and departments. It is in constant use as a source of material for briefs filed before such bodies as the Federal Communications Commission and the Bureau of Civil Aeronautics; it continues to be used for setting state and county quotas for Federal Bond Drives. In the late Winter 1947 its use was made mandatory through a law passed by the legislature of West Virginia governing the distribution of state aid for free schools.

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2 Annual Report of the Superintendent of Public Instruction of the Commonwealth of Virginia, School Year 1947-1948, Bulletin, State Board of Education, Vol. XXXI, No. 3, (Richmond, Va.: Division of Purchase and Printing, 1948) pp. 216 - 221 and 322 - 327.

3 Sales Management, Sales Management, Incorporated, Vol. 60, No. 10, May, 1948 (New York, N. Y.: 386 Fourth Avenue), pp. 334-340.

4 The Virginia Economic Review, Bulletin of the Division of Planning and Economic Development, Virginia Department of Conservation and Development, Vol. 2, No. 3. (Richmond, Va.: 301 State Finance Building.) pp. 3 - 6.

5 Sales Management, Sales Management, Incorporated, Vol. 58, No. 10, May, 1947. (New York, N. Y.: 386 Fourth Avenue), pp. 10.

Importance of the Study

It is believed that wide differences now exist among the counties and cities of Virginia concerning educational effort as compared to ability to pay for education. Today, most states accept the principle of equalization of educational opportunity among the poorer and richer localities as a fundamental element in the method of distribution of state school funds. Distribution is made in Virginia according to a formula which is "based primarily on average daily attendance and density of population properly weighted for negroes and whites".[6] It is the opinion of the Committee on Finance of the Virginia Education Commission[7] that the plan now in use is far from adequate and that great inequalities still exist.

It is generally accepted that a more adequate method of distribution would provide equality of opportunity for all children without imposing undue burden on any locality and without permitting any locality to escape its just share of the burden.

It is believed that there are school divisions in Virginia that are not expending from local sources an equitable amount in relation to their ability to pay, whereas there are others that expend more.

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6. The Virginia Public School System, Report of the Virginia Education Commission, 1944. (Richmond, Va.: Commonwealth of Virginia, Division of Purchase and Printing), p. 69.

7 Ibid., p. 71.

According to a recognized principle of government, " each territorial unit should itself bear the costs, in so far as it is able, of the functions that are performed by it or for it".[8] Accordingly, it may be laid down as fundamental that those functions that are local in character should be defrayed by a local tax; that the state should pay such proportion of the expenses as are incurred in performing State functions, and that the State should also take into account the ability of its local units to support its services in the treatment of the distribution of special aid.

In Virginia, at the present time, the valuation of property taxable for school purposes is used to determine the ability of a local school division to support its own schools. The types of property in Virginia that are subject to taxation are (1) tangible personal property, (2) real estate, (3) machinery and tools of manufacturing and mining establishments, (4) merchants' capital and (5) the physical properties of public service corporations[9]. In other words, only real and personal property are taxable for local support of schools. It is generally believed that quite often personal property is not assessed unless it is reported by the owner, and that in some cases at least it is not reported. Hence, one can safely conclude that the burden of taxation for local support of schools falls largely upon real estate.

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8 Harlan Updegraff, Financial Support, (Philadelphia, Penna.: The William F. Fell Company, Incorporated, 1922, p. 108.

9 William H. Stauffer, "Tax Survey Reveals Unequal True Rates", Newspaper Article, Richmond Times Dispatch, (Richmond, Va.: December 19, 1948), Sect. IV. p. 1.

The assessment of property upon which the school tax is based is made by assessors. That inequalities in assessment of properties within the same localities exist is evident from a report by Dr. William H. Stauffer, Chief of Research, Virginia State Chamber of Commerce. The report [10] in part, said:

> The public has been led to believe that the tax resources of the localities have been utilized to the point that precludes further substantial local effort and that it is therefore the responsibility of the State or the Federal government to assume the costs for any substantial additional financing that may be needed. This assumption is subject to substantial refutation when certain facts are dispassionately interpreted. It is demonstrable that local effort has not been exerted in a measure commensurate with local ability throughout a large portion of the State in financing public services .....
>
> In no county or city of Virginia is real estate assessed at an average of one-hundred per cent of its true worth. In the counties and cities real estate is assessed at averages ranging from less than ten per cent to seventy-five per cent .... Studies by the State Department of Taxation of the changes in assessment ratios in various counties that have reassessed their real estate in recent years discloses that the assessment ratios were reduced in as many instances as they were increased.
>
> In 1947 the true tax rate on real estate in the counties and cities of Virginia averaged ninety-two cents per one hundred-dollar value. This can be compared with the true rate of eighty-eight cents in 1946, one dollar and fifteen cents in 1936, and one dollar and one cents in 1926.... Of the one-hundred counties seventy-one enjoyed lower true tax rates in 1947 than in 1926.

This study is believed to be significant because it is thought that the people of Virginia have a desire to promote the best interests of the schools in their respective localities. Furthermore, the expenditure of money raised in local communities is an essential feature of our democracy[11]. One may expect therefore, as a principle of school

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10 Ibid., p. 1.

11 Harlan Updegraff, Financial Support, (Philadelphia, Penna: The William F. Fell Company, Incorporated, 1922), p. 108.

finance, that local support shall be essential in any public school system.

Source of data and procedure

The data for this study were obtained from the Annual Report of the Superintendent of Public Instruction, Commonwealth of Virginia for the school year 1947 - 1948 [12]. The report enumerated average daily attendance in the public free schools and the amount of money expended by each county and city for public free education. Income data for this study were obtained from an annual report entitled "Survey of Buying Power", compiled by Sales Management[13] and from a report prepared by the Bureau of Population of the University of Virginia[14].

Income estimates are obtainable from the Bureau of Population and Economic Research[15] of the University of Virginia. However, the University of Virginia data are estimated after studying state and Federal income tax returns and no other variables are considered. The Survey of Buying Power in Sales Management estimates income as determined after taking into consideration wages, salaries, dividends, interest, government payments, miscellaneous items of income, retail sales, income tax returns, bank debits, population changes, car loadings, agricultural payments, and the like. This is done in cooperation with

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12 Annual Report of Superintendent, loc. cit., p.216-221;322-327.

13 Sales Management, loc. cit., pp. 334 - 340.

14 The Virginia Economic Review, loc. cit., p. 3.

15 The Virginia Economic Review, loc. cit., p. 3

the United States Department of Commerce experts[16].

Accordingly, it appeared that the income data reported by Sales Management would be more accurate than that reported in the Bureau of Population study, since the Sales Management study used data other than income tax returns alone.

Income of the cities -- Buena Vista, Clifton Forge, Hopewell, Radford, South Norfolk, and Williamsburg are not listed in the Sales Management report since the pertinent data were included with their respective county income figures. However, the estimated income of counties and cities in Virginia as prepared by the Bureau of Population of the University of Virginia included these cities[17].

In this study the writer calculated the ratio of city income to county income for the above-listed cities by using the University of Virginia income data. The resultant ratio was applied to the Sales Management county income data, thus giving an estimated city income figure for the cities not included in the Sales Management report.

The procedure used in this study to calculate ability to pay for public education was to divide income by average daily attendance. Effort was calculated by dividing local expenditures for education by income.

Survey of related material

Many studies have been made since 1905 seeking a means of measuring educational differences in terms of ability and effort.

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16 Op. cit., p. 22., May, 1947.

17 The Virginia Economic Review, op. cit., p. 3.

William H. Harris [18] made such a study in which he called attention to the wide variation among the states in wealth behind each child in average daily attendance as a reason for differences in educational facilities.

In February, 1924, the National Education Association, in attempting to get Congress to pass a bill to create a department of education in the Federal government, presented several studies pertaining to wealth, income and school expenditures among the states of the Nation.

These studies[19] were presented before the Committee on Education, House of Representatives, Sixty-Eighth Congress, to point out the need for a Federal department of education. It seems worth mentioning that the director of research of the National Education Association presented data to the Committee relating to the differences of the states to support education[20]. The data showed the ability of each state to support education by using income as a basis for determining ability to pay. The data indicated that three states had ability as calculated on the basis of income of over $3,100 for each child in average daily attendance[21]. On the other hand, three states at the other extreme had ability under $991 for each child in average daily attendance. It

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18 William H. Harris, "Some of the Conditions Which Cause Variation in the Rate of School Expenditures in Different Localities", Proceedings, Vol. 44, (Washington, D. C.,: National Education Association, 1906), pp. 195-215.

19 House of Representatives, Sixty-Eighth Congress, Hearings Before the Committee on Education, (Washington, D. C.: Government Printing Office, 1924), pp. 159-171.

20 Ibid., p. 160.

21 Ibid., p. 169.

revealed that some states have more than three times the ability of others to support education[22]. The study proposed the principle that ability to pay for education should be based on the income of the people.

During the period 1922 to 1925, Dr. Fletcher Harper Swift[23] and his associates at the University of Minnesota published a series of studies of public school finance in a number of the states. These studies were concerned for the most part with the effectiveness of the financial management of public education, and considered primarily such factors as the distribution of state funds and the effectiveness of local support. These studies contributed to a possible solution of the problem in that they showed that the greatest efficiency was found where the administrative units were largest. One can interpret this to mean that County organizations were more efficient than townships or district organizations, and that state organizations were more efficient than county organizations. Assessed property values were used as the base for determining local effort. In Virginia, it is generally accepted that assessed values do not yield comparable results since more than one hundred assessing boards fix these values. In Virginia, the State Board of Education has recommended the enlargement of school divisions, although there seems to have been no suggestions of increasing the size of the local tax division.

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22 Ibid., p. 169.

23 Fletcher H. Swift and others, Studies in Public School Finance, (Minneapolis: University of Minnesota, 1922-1925), 4 vols. The West, 1922; The East, 1923; The Middle West, 1924; The South, 1925.

It is the enlargement of the size of the local tax divisions which would help to eliminate some of the inequalities that are known to exist, since these, in turn, grow out of variations in wealth, rate of assessment, and rate of taxation. Since it is generally believed that most people and many school administrators feel that it is desirable to keep the schools closely identified with the localities served by them, it seems unlikely that any such change can be expected, even if such a change is desirable.

The following paragraphs which were taken from the Annual Report of the Superintendent of Public Instruction[24] for the year 1928 - 1929 are a part of the first mention of the problem of equalization in the official reports of the State Board of Education:

> It is now pretty well agreed that some form of equalization of educational opportunity should be established in Virginia although there appears to be a division of opinion as to the method of approach. It is urged on the one hand that a large equalization fund of say a million dollars should be set up for the proper assistance of those counties not economically able to support an adequate system of training. A second plan is to use the entire State appropriation for the purpose of guaranteeing minimum basic educational facilities all over the State, using a relatively small equalizing fund to supplement local appropriations in certain counties for this purpose. It appears that in the present circumstances in Virginia the latter method gives promise of better results.
>
> If a large equalization fund be set up the judicious distribution of this must force to the front again the vexatious problem of local assessment rates. When the Constitution was amended to provide for segregation of taxes the people deliberately voted that real estate and tangible personal property should be segregated for local taxes alone,

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24 Annual Report of the Superintendent of Public Instruction, Bulletin, State Board of Education, Vol. XII, No. 3, (Richmond, Va.: Division of Purchase and Printing, 1929), p. 16.

> and consciously voted for this proposition in opposition to the idea of a central board of equalization of values. It is difficult to see how any large fund such as a million dollars can be fairly distributed over the state without taking cognizance of local tax rates and local rates of assessment. The latter consideration is certainly discouraged by the constitutional amendment and the former consideration which would invite a material increase in local tax rates is at this time uneconomic and unwise.

A recognition that the administration of an equalization fund must consider the local effort, found in these statements, implies that equalization of opportunity must consider the same factor.

In the Annual Report of the Superintendent of Public Instruction for the year 1929 - 1930, Mr. Hart[25] made this statement:

> On the recommendation of Governor Pollard, and on that of the former Governor and the Budget Commission, the Assembly of 1930 appropriated a sum for equalization of education. Very fortunately wide latitude was allowed the State Board of Education in the distribution of this money, as is also permitted in the distribution of the elementary school fund. The Board commenced its study of plans at its organization meeting, and devoted very serious and cautious attention for three or four months to this large proposition. As a result of this a very practicable and helpful plan of distributing the equalization fund was set up. This plan was promptly submitted to all of the counties, and a few modifications were made from time to time. It is quite safe to say that the procedure adopted by the State Board of Education is about as satisfactory to all of the counties as any other one plan could prove to be at this time.
>
> Briefly, this plan proposes that the number of teachers in any county to be paid in part from state funds be determined by the average daily attendance; it emphasizes that the quality of instruction is the largest factor in equal minimum opportunities; it therefore provides a sliding scale

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25 Annual Report of the Superintendent of Public Instruction, Bulletin State Board of Education, Vol. XIII, No. 2, (Richmond, Va.: Division of Purchase and Printing, 1930), pp. 15-16.

> of appropriations from the State, based upon the qualifications of the teachers employed by the counties, with the amount to be paid by the county remaining a constant sum. The plan sets up an eight months term for all rural schools, as the required minimum. Two circumstances have made it necessary for adaptations to be made for the year beginning in September 1930; first, the fact that the plan was not promulgated by the State Board until local revenues had already been determined; and second, the unfortunate situation brought about by the drought.

From these paragraphs, it is noteworthy that the method of distributing these funds avoided any attempt to measure either the ability or the effort made by the counties to support their schools. The requirements were that the schools should be operated for at least eight months in order to participate, and that the distribution would depend on the qualifications of the teachers employed and the average daily attendance. In addition, the State Board reserved the right to assist any county which proved unable to pay the remaining cost. Fixed or adequate criteria were not established for measuring either the need of the county, or its real ability to pay the costs of its educational program. The Board came to feel that the distribution of this fund was more dependent on apparent than on real poverty, and sought a way out of its difficulty.

During the year 1933 a survey of the counties was made by the State Board of Education to find the relative density of population. On the basis of this survey each local unit was assigned a pupil-teacher ratio. These ratios varied between twenty-five and forty. On the recommendation of the State Board an act[26] was passed by the

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26 Virginia School Laws, Bulletin State Board of Education, Vol. XIX, No. 2, (Richmond, Va.: Division of Purchase and Printing, 1936), p.157.

General Assembly in 1934. A pertinent portion of it is:

> Section 1. The school board of each and every school division in the state is hereby empowered and required to maintain the public free schools of such division for a period of at least eight months or one hundred and sixty teaching days in each school year. In order that each school division may have the funds necessary to enable the school board to maintain the elementary and high schools thereof for such minimum terms, it is hereby provided that when any county, city, or town has legally complied with the existing laws with reference to local school levies, such school division or divisions shall be alloted out of the public school funds held in the treasury of the State for each group of twenty-five to forty pupils in average daily attendance, a sum equal to the amount to be derived by dividing said public school fund by the number of groups of twenty-five to forty pupils in average daily attendance in the State, depending upon the density of population, to be apportioned by the State Board of Education, as provided in section one hundred and thirty-five of the Constitution and in conformity with the provisions of the code and of the Acts of the Assembly under such rules and regulations as may be set up by said State Board of Education.

In the year 1938, this Act was amended, raising the requirement for length of term to nine months, and requiring that each county must pay thirty per cent of the cost of instruction. As provided in the Constitution, the General Assembly must appropriate an amount equal to the amount that would be realized by a tax on real property of not less than one, nor more than five mills on the dollar. The Constitution requires that this sum is to be distributed on the basis of school-age population. The appropriation bill sets this rate at one mill. Since 1934, the amounts sent the counties have for the most part exceeded the constitutional requirement and the entire distribution has been made in accordance with the provisions of the Act as quoted above.

It appears that this method of distribution does not take completely into account the ability to support education because there is no clear connection between density of population and wealth or income, particularly, in those cases where the composition of population varies widely.

Assessed property values have ordinarily been used as the measure of ability because local funds for public education have usually come out of taxes on real estate and on personal tangibles. If real ability is sought, some other measure must be used because in Virginia there is no central assessment board and over one-hundred different units make assessment. Thus, it is probable that the rates vary somewhat from unit to unit within the state. In 1930 the legislature appointed a Committee to study assessment rates in Virginia. This committee made a detailed study of ten counties. The report [27] issued by this committee revealed that in 1931, the assessment values of 426 pieces of real property sold in the counties of Accomac, Albemarle, Lunenburg, Pittsylvania and Washington were from twenty to twenty-nine per cent of the prices actually paid for the property.

In attempting to find causes of variation in assessment rates, one encounters difficulties. However, it is likely that the differences come about because of the almost impossible task of determining real

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27 Report of Committee on Assessment Rates, House Document No. 7, (Richmond, Va.: Division of Purchase and Printing, 1932), Table III, pp. 18, 19.

value. It has been contended by some that the average sale values offer a sound method of determining the real value of real property.[28]

The advisory Committee on Education, in 1938, prepared a report of its findings, after conducting school surveys throughout the United States. The committee's report[29] included these significant paragraphs:

> The outstanding impression from the survey of the schools throughout the United States is one of uneven development.
>
> Elementary School service of some sort is available in most communities, but the quality of the service varies greatly. The major problem of the elementary schools is one of providing financial support where it is now inadequate. High schools offer many special problems and present a picture of even greater diversity than do elementary schools. Satisfactory educational opportunities are found in only a few places where circumstances are unusually favorable.
>
> A basic difficulty is the way the tax system is organized to provide for schools. At the time when it was decided that schools should be supported at public expense, the property tax was the principal source of public revenue. Schools now receive an increasing amount of support from other types of taxes, but over three-quarters of the annual cost of public education still is met through property taxes, levied chiefly by local school boards and other local taxing agencies.
>
> Because of this situation, the fortunes of education rise and fall with the ability and willingness of property owners to pay taxes. No other great social service is dependent so largely upon so unsatisfactory a tax base.
>
> Most of the 127,000 local school districts raise their taxes seperately. The larger the number of districts and the smaller their average size, the less likely is any relationship between amount of wealth and number of children. In several states, the richest districts with the same effort could provide $100 or more per child for every $1 provided by the poorest districts.

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28 Alvin H. Hensen and Harvey S. Perloff, State and Local Finance in the National Economy, (New York, N. Y.: W. W. Norton and Company, Inc., 1944), pp. 34-49.

29 The National Advisory Committee on Education, Report of the Committee, (Washington, D. C.: Government Printing Office, 1938), pp. 4-15.

> Actual expenditures do not vary so much, because in most States the poorest districts tax themselves much more heavily than the richest districts. Many States also provide part of the cost of education through funds raised through general state taxation. Even so, in a number of States expenditures per classroom are twelve to fifteen times as high in some districts as in others.
>
> Inequality within States can be lessened through vigorous action by the State governments.

It is worth noting that this report clearly states that satisfactory educational opportunities are found only in a few places and that a basic difficulty is the way the tax system is organized to provide money for the schools. Furthermore, the report states that "no other great social service is dependent so largely upon so unsatisfactory a tax base".[30]

In December, 1948, Dr. William H. Stauffer, Director of Research for the Virginia State Chamber of Commerce, prepared a report[31] which revealed the results of a property tax rate survey of the counties and cities of Virginia. The report in part said:

> In no county or city in Virginia is real estate assessed at an average of one-hundred per cent of its true worth. Hence, in no county or city of the Commonwealth does the nominal rate of real estate taxes correctly reflect the actual or true rate....
>
> In the counties and cities real estate is assessed at averages ranging from less than ten per cent to seventy-five per cent .... It is obvious that when we consider tax capacity under an ad valoren system, property should be reassessed at intervals not exceeding five years. In this

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30 Ibid., p. 6.

31 William H. Stauffer, Tax Survey Reveals Unequal True Rates, (Richmond, Va.: Newspaper Article, Richmond Times Dispatch, December 19, 1948), Sect. IV.

> respect property should be treated no differently from an excise tax whose base automatically expands in times of prosperity and contracts in times of dull business.
>
> The situation in Virginia is that real estate has been the beneficiary of a relatively static role with but slight accommodation to the growing revenue needs of government.

This report points out the extreme variations in the true tax rates among the various localities of Virginia. Furthermore, the inadequacy of the property tax as a revenue source is indicated since real estate has been the beneficiary of a static role.

In May, 1949, Dr. William H. Stauffer prepared another report[32] which revealed local effort for school operations in Virginia Counties and Cities during the school year 1947 - 1948. The report used local wealth as a basis for determining effort. A part of the report said:

> An analysis shows amazing differences in the effort being made by the various localities toward the support of their schools. Warren County, for example, exerts an effort equal to only twenty-three cents per one-hundred dollars of locally taxable wealth, while Powhatan County finds it possible to carry a rate nearly four times as great, or eighty-seven cents per one-hundred of locally taxable wealth.... Counties and Cities should be required to exert an effort commensurate with their respective abilities, toward the support of all governmental services in which the State renders financial assistance.....
>
> The financing of education in Virginia has heretofore been carried out with no real recognition of the ability of the localities to provide out of their own tax resources the funds requisite for maintaining an efficient system of schools.....

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32 William H. Stauffer, " Local Effort for School Operations in Virginia Counties and Cities", 1947-1948, (Richmond, Va.: Newspaper Article, Richmond Times Dispatch, May 8, 1949, Section IV), p. 1.

> It is desirable and feasible for the State authority to take recognition of certain fundamental concepts in the field of public education, and to insure adequate financial provision under an acceptable program, provided the system is strengthened by the introduction of a sound tax structure which will stabilize the State revenue sources.

ORGANIZATION

The remainder of this study is organized as follows:

Chapter II presents the data with its analysis and interpretation.

Chapter III presents a comparison of this study with a similar study prepared by Dr. William H. Stauffer, Director of Research, Virginia State Chamber of Commerce[33].

Chapter IV contains the conclusions resulting from this study and any educational implications that may be suggested by them.

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33 Ibid., p. 1

CHAPTER II

THE DATA AND ITS ANALYSIS

A variety of theories calculated to provide justification of the numerous taxes levied by the states and localities have been advanced. The writer, in this study uses the premise that citizens of a locality should pay for public services in accordance with their ability. Furthermore, ability to pay is based on total income for the purpose of this study.

One of the four famous canons of taxation advanced by Adam Smith declares that " the subjects of every state ought to contribute toward the support of the government as nearly as possible in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state"[1]. The best measurement of the actual productive capacity of the United States is the increasingly meaningful estimates of national income made by various reliable statistical agencies[2].

The present study has accepted income as being a representative index of the economic ability of a locality. Table I reveals the following significant information:

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1 Jens. P. Jensen, Problems of Public Finance, (New Yorkn N. Y.: Thomas Y. Crowell Company, 1924), p. 210.

2 John K. Norton and Margaret A. Norton, Wealth, Children and Education, (New York, N. Y.: Bureau of Publications, Teachers College, Columbia University, 1938), p. 1.

TABLE I

INDICATION OF ABILITY AND EFFORT OF COUNTIES AND CITIES IN VIRGINIA TO SUPPORT PUBLIC SCHOOL EDUCATION, 1947-1948, CALCULATED ON THE BASIS OF INCOME (COUNTIES AND CITIES ARRANGED ACCORDING TO RANK IN ABILITY TO SUPPORT EDUCATION)

	1	2	3	4
COUNTIES	Ability * (Amount of income behind each child in average daily attendance)	Rank in Ability ***	Effort ** (Per cent of income expended for education)	Rank in Effort ***
	$			
Arlington	16,879.83	1	0.7	93
Elizabeth City	10,653.09	2	0.6	97
Warwick	7,323.84	3	0.7	93
Northampton	6,638.65	4	0.8	90
Orange	6,599.90	5	0.7	93
Fauquier	6,244.25	6	1.1	67
Rockingham	6,045.70	7	1.0	76
Loudoun	6,013.19	8	1.0	76
Frederick	5,971.16	9	0.6	97
Clarke	5,942.93	10	1.2	56
Henrico	5,745.55	11	1.2	56
King William	5,664.97	12	0.9	84
Nottoway	5,573.36	13	1.0	76
Warren	5,552.66	14	0.9	84
Lancaster	5,489.04	15	0.7	93
New Kent	5,323.45	16	0.9	84
Rockbridge	5,254.91	17	1.2	56
Prince Edward	5,188.02	18	1.0	76
Mathews	5,056.15	19	1.1	67
Culpeper	5,039.05	20	1.1	67
Alleghany	5,012.92	21	1.3	41
Augusta	4,839.30	22	1.4	34
Roanoke	4,765.27	23	1.3	41
Prince George	4,609.71	24	1.7	18
Shenandoah	4,532.31	25	0.8	90
Prince William	4,506.21	26	1.3	41
Appomattox	4,480.02	27	1.2	56
Hanover	4,456.62	28	1.2	56
Essex	4,442.00	29	1.1	67
Greensville	4,326.93	30	1.0	76

(continued next page)

TABLE I
(continued)

	1	2	3	4
Tazewell	4,152.52	31	0.6	97
Norfolk	4,146.10	32	1.7	18
Middlesex	4,115.96	33	1.0	76
Wythe	3,933.29	34	0.9	84
Gloucester	3,918.88	35	1.3	41
Bath	3,902.85	36	1.7	18
Princess Anne	3,849.33	37	1.3	41
Accomac	3,829.56	38	1.4	34
Albemarle	3,783.47	39	1.7	18
Isle of Wight	3,765.02	40	1.4	34
King George	3,693.60	41	1.7	18
Washington	3,685.38	42	1.2	56
Page	3,670.28	43	1.1	67
Southampton	3,658.99	44	1.5	30
Northumberland	3,634.07	45	1.1	67
Spotsylvania	3,633.12	46	1.2	56
Craig	3,614.08	47	1.3	41
Mechlenburg	3,600.54	48	1.0	76
Montgomery	3,504.01	49	1.3	41
Pulaski	3,433.69	50	1.2	56
Grayson	3,382.17	51	1.6	24
Sussex	3,365.87	52	1.4	34
Lunenburg	3,352.56	53	1.3	41
York	3,336.46	54	1.6	24
Pittsylvania	3,318.10	55	1.1	67
Henry	3,306.20	56	0.9	84
Louisa	3,268.43	57	1.5	30
Fairfax	3,246.81	58	2.9	1
Surry	3,245.64	59	1.3	41
Westmoreland	3,242.66	60	1.2	56
Smyth	3,210.59	61	1.1	67
Powhatan	3,100.72	62	2.2	6
Madison	3,075.29	63	1.3	41
Halifax	3,073.11	64	1.2	56
Brunswick	3,024.17	65	1.4	34
Caroline	3,007.25	66	1.3	41
Wise	2,957.86	67	1.1	67
Nansemond	2,901.64	68	1.3	41
Highland	2,887.68	69	1.6	24
Chesterfield	2,879.43	70	2.4	5
Giles	2,874.54	71	2.2	6
Bedford	2,765.82	72	1.9	12
Fluvanna	2,753.27	73	1.8	13

(continued next page)

TABLE I
(continued)

	1	2	3	4
Rappahannock	2,715.01	74	1.8	13
Botetourt	2,663.31	75	2.2	6
Dinwiddie	2,618.63	76	1.8	13
Nelson	2,472.21	77	0.2	100
Stafford	2,460.46	78	2.1	9
Lee	2,450.64	79	1.0	76
Amherst	2,430.97	80	1.4	34
Greene	2,424.07	81	0.8	90
King & Queen	2,414.88	82	1.8	13
Franklin	2,410.90	83	1.5	30
Campbell	2,335.43	84	2.5	4
Floyd	2,329.59	85	1.6	24
Patrick	2,291.44	86	1.6	24
Richmond	2,285.99	87	1.3	41
Buckingham	2,154.51	88	1.3	41
Goochland	2,122.80	89	2.6	3
Cumberland	2,099.23	90	2.0	10
Russell	2,040.59	91	1.7	18
Charlotte	2,022.75	92	1.3	41
Bland	2,009.28	93	1.8	13
Charles City	1,952.18	94	2.0	10
Buchanan	1,883.13	95	1.2	56
Dickenson	1,810.56	96	1.4	34
Carroll	1,782.10	97	1.6	24
Scott	1,755.61	98	1.5	30
Amelia	1,671.25	99	2.9	1
James City	1,370.97	100	0.9	84

COUNTY AVERAGE $ 3,797.44 1.36

(continued next page)

TABLE I
(Continued)

CITIES	1	2	3	4
	$			
Norfolk	14,793.67	1	0.9	14
Richmond	14,340.02	2	1.0	9
Charlottesville	13,266.49	3	0.6	22
Alexandria	12,697.19	4	1.0	9
Staunton	12,258.77	5	0.8	17
Newport News	12,237.09	6	0.9	14
Suffolk	12,185.81	7	0.6	22
Winchester	11,835.54	8	0.5	24
Roanoke	11,634.95	9	1.2	6
Petersburg	11,127.18	10	0.8	17
Portsmouth	11,025.50	11	0.7	20
Hampton	10,745.43	12	1.0	9
Harrisonburg	10.736.42	13	0.8	17
Lynchburg	10.331.65	14	1.0	9
Fredericksburg	10,290.66	15	0.9	14
Danville	10,238.18	16	1.0	9
Clifton Forge	8,413.29	17	1.1	8
Radford	7,057.10	18	1.3	4
Martinsville	6,105.08	19	1.2	6
Bristol	5,955.50	20	1.3	4
Williamsburg	5,695.18	21	1.9	2
Buena Vista	5,285.17	22	0.7	20
Hopewell	5,120.08	23	2.7	1
South Norfolk	4,568.04	24	1.7	3

CITY AVERAGE $9,914.33

* Result of dividing each county's and city's income by its number of children in average daily attendance at the public schools.

** Result of dividing each county's and City's total expenditures for public education by its total income. The resultant figures of this calculation are an indication, in terms of percentage, of the comparative effort exerted by the localities to support education.

*** 1 is highest; 100 is lowest for counties.
1 is highest; 24 is lowest for cities.

Column 1 of this table indicates that Arlington County has $16,879.83 of income per child in average daily attendance as compared with $1,370.97 in James City County as a case in point at the opposite extreme. Thus Arlington County has 12.31 times as much income per child in average daily attendance as is found in James City County. Similarly, Arlington County has 4.91 times as much income per child in average daily attendance as is found in Pulaski County, which has $3,433.69 of income per child in average daily attendance. Using the figures in column 1 one may compare the ability of any county or city with the ability of any other county or city.

Column 3 of the table indicates that Arlington County expended 0.7 per cent of its income for education as compared with 2.9 per cent in Amelia County. Thus Amelia County expended 2.2 per cent more for its income for education than did Arlington County. Yet, the Arlington County income back of each child in average daily attendance is 10.10 times as great as that of Amelia County.

The range in effort exerted for the support of education is from 0.2 per cent in Nelson County to 2.9 per cent in Amelia County. Yet, Nelson County is 1.47 times as able to support education as Amelia County.

None of the 20 counties of greatest ability to pay for education is within the group of 20 counties exerting the most effort.

Fourteen counties with the greatest ability to pay are in the group of 20 exerting the least effort.

Eight of the counties in the group of twenty having the lowest ability to pay are in the group exerting the most effort.

Seven of the ten cities having the greatest ability to pay are within the group of ten cities exerting the least effort.

Eight of the ten cities exerting the most effort are among the group of ten cities lowest in ability to pay.

The amounts actually spent for education vary but they do not differ as much as the ability to spend. In general, the counties and cities best able to raise funds are making less-than-average effort to support education. The localities least able to raise funds are with few exceptions putting forth more effort for education, in proportion to their income than well-to-do localities.

The Table clearly reveals that the ability of the counties and cities to pay for education varies and is unequal.

By using the statistical formula [3]

$$r = 1 - \frac{6\Sigma D^2}{N(N^2-1)}$$

as a method of finding the degree of correlation between ability and effort among the counties and cities, it is found that there is negative relationship, since the calculation shows r to be -.22 as a coefficient of correlation among the counties and r is -.53 among the cities.

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3 Henry E. Garrett, Statistics in Psychology and Education, (New York, N. Y.: Longmans, Green Company, 1947), pp. 345-346.

Forty-five of the one hundred counties rank higher in effort than in ability.

Only one county has the same rank in ability and effort.

Thirty-eight counties have above average ability.

Sixty-two counties have below average ability.

Thirty-three counties exert above average effort.

Seven counties exert average effort.

Sixty counties exert below average effort.

Only three of the 38 counties with above average ability to support education, exert above average effort.

Only two of the thirty-eight counties with above average ability to support education exert average effort.

Thirty of the sixty-two counties with below average ability to support education are exerting above average effort.

Five of the sixty-two counties with below average ability to support education are exerting average effort.

Three of the thirty-three counties with above average effort have above average ability.

The findings as presented in Table No. I reveal that among the counties and cities which are high, low, or average in ability, there may be found in each group counties and cities which are high, low and average in the effort which they make to pay for education. For example, Arlington County with 300.44 per cent more ability to pay for education

than the average county, ranks first in ability. Yet, Arlington County makes 50 per cent less effort to finance education than the average county and ranks 93 among all of the counties in this respect.

The counties of Prince George, Norfolk and Bath stand well above the average both in ability and in effort. Amelia County with only 44 per cent as much ability as the average county ranks 99 in this respect, but makes 100.1 per cent more effort to pay for education then the average county, and ranks first among the counties in effort.

James City County ranks low both in ability and in effort.

Nine of the fifty counties composing the upper half of all counties in the state, in ability to pay for education make an effort equal to or greater than that for the counties as a whole, while forty-one of these fifty counties make less than average effort. Of the fifty counties lowest in ability to finance education, thirty-one make an effort equal to or greater than average effort, and nineteen make less than average effort.

In 1946, Dr. C. F. Marsh[4], head of the Department of Business Administration, College of William and Mary in Virginia, said:

> It is clear that Virginia has the ability to provide adequate governmental service. State and local revenues have absorbed a relatively small proporation of the capacity of her citizens, as measured by income payments to individuals living in the state....

Table I certainly reveals that the localities of Virginia, as a whole, expend a relatively small proportion of their income for the support of education.

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4 C. F. Marsh, "Virginia's Ability to Provide" (Charlottesville, Va.: University of Virginia Newsletter, October 15, 1946).

CHAPTER III

COMPARISON OF THE FINDINGS WITH A STUDY BASED ON WEALTH

The scope of this study does not propose to discuss in detail the factors that must be considered in studying the relationship of income to wealth in the different counties and cities of Virginia. However, some of the more important factors might well be mentioned at this point. It should be recognized that while wealth and income are used as measures of the same thing, they might both be valid and yet have little correlation. This might be made clear by an illustration. One individual might own a tract of wooded land valued at $200,000. From this he might be receiving no income at all. Another man might own no property, but enjoy an income from his salary of $10,000. One man owns many acres of land but has no income. The other man enjoys a good income but owns no property. Yet there is some agreement in their economic resources, because the man who owned the wooded land might sell it for $200,000 and invest this sum in bonds or notes yielding a five per cent interest rate in which case he would have an income of $10,000 — identical with the income of the salaried man. This, of course, is an extreme case, but is presented to point out that even though one might expect some correlation between the figures on wealth and income given for the counties and cities, they would not necessarily agree.

However, one would expect some agreement. With reference to the operation of economic principles, the value of real estate is an indication of its income yielding potentialities[1]. On this basis one would expect close agreement between wealth and income. This economic law works to some extent in determining the value of all kinds of property. Therefore, where some disagreement between the two measures of economic ability, income and wealth, might take place without inferring a lack of reliability on the part of either or both; wide discrepancies between the two, if unexplained, might raise a question as to the accuracy of the estimates upon which they are based.

In comparing the income and wealth of a locality another factor should also be considered. The income of a locality is a summation of the income of the people living within that locality without regard to where those incomes originate. Wealth of a locality concerns property located within that locality without regard to the residence of the holder of this property. Accordingly, income is credited to the locality according to the principle of residence, and wealth is credited to a locality according to the principle of location[2].

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1 William H. Kiekhofer, Economic Principles, Problems and Policies, (New York, N. Y.: Appleton-Century Company, Inc., 1946), pp. 55-562.

2 W. I. King, "Income and Wealth", The American Economic Review, September 1925, pp. 457-474.

TABLE II

COMPARISON OF EFFORT EXERTED FOR PUBLIC FREE EDUCATION, PER $100 OF INCOME WITH EFFORT EXERTED PER $100 OF WEALTH IN VIRGINIA COUNTIES AND CITIES FOR THE SCHOOL YEAR 1947-1948. (COUNTIES AND CITIES ARRANGED ALPHABETICALLY)

COUNTIES	1 Effort per $100 income(present study 1947-1948)	2 Effort per $100 wealth (Stauffer's study 1947-1948 *	3 Rank in effort according to income (present study 1947-1948) **	4 Rank in effort according to wealth (Stauffer's study 1947-1948) **
	$	$		
Accomac	1.40	0.62	37	27
Albemarle	1.70	.44	20	66
Allegheny	1.30	.57	44	32
Amelia	2.90	.76	1	10
Amherst	1.40	.36	37	103
Appomattox	1.20	.62	61	28
Arlington	0.70	.39	113	94
Augusta	1.40	.38	37	96
Bath	1.70	.43	20	72
Bedford	1.90	.48	13	54
Bland	1.80	.40	15	87
Botetourt	2.20	.52	7	42
Brunswick	1.40	.67	37	18
Buchanan	1.20	.39	61	91
Buckingham	1.30	.57	44	33
Campbell	2.50	.65	5	20
Caroline	1.30	.35	44	108
Carroll	1.60	.26	27	123
Charles City	2.00	.55	11	37
Charlotte	1.30	.35	44	107
Chesterfield	2.40	.33	6	111
Clarke	1.20	.42	61	78
Craig	1.30	.43	44	71
Culpeper	1.10	.46	74	62

(continued next page)

TABLE II
(Continued)

COUNTIES	1	2	3	4
	$	$		
Cumberland	2.00	.58	11	29
Dickenson	1.40	.43	37	75
Dinwiddie	1.80	.40	15	85
Elizabeth City	0.60	.46	119	60
Essex	1.10	.43	74	76
Fairfax	2.90	.58	1	30
Fauquier	1.10	.30	74	118
Floyd	1.60	.44	27	69
Fluvanna	1.80	.39	15	88
Franklin	1.50	.46	33	61
Frederick	0.60	.31	119	115
Giles	2.20	.37	7	100
Gloucester	1.30	.28	44	120
Goochland	2.60	.41	4	81
Grayson	1.60	.64	27	25
Greene	0.80	.25	107	124
Greensville	1.00	.38	84	97
Halifax	1.20	.41	61	83
Hanover	1.20	.49	61	52
Henrico	1.20	.41	61	82
Henry	0.90	.35	98	104
Highland	1.60	.30	27	117
Isle of Wight	1.40	.51	37	45
James City	0.90	.42	98	77
King George	1.70	.68	20	16
King & Queen	1.80	.41	15	84
King William	0.90	.31	98	114

(continued next page)

TABLE II
(Continued)

COUNTIES	1	2	3	4
	$	$		
Lancaster	0.70	.35	113	109
Lee	1.00	.43	84	74
Loudoun	1.00	.33	84	112
Louisa	1.50	.44	33	67
Lunenburg	1.30	.55	44	36
Madison	1.30	.38	44	98
Mathews	1.10	.39	74	90
Mecklenburg	1.00	.57	84	34
Middlesex	1.00	.38	84	95
Montgomery	1.30	.47	44	58
Nansemond	1.30	.37	44	99
Nelson	0.20	.39	125	92
New Kent	0.90	.36	98	102
Norfolk	1.70	.83	20	5
Northampton	0.80	.42	107	79
Northumberland	1.10	.32	74	113
Nottoway	1.00	.45	84	63
Orange	0.70	.35	113	106
Page	1.10	.44	74	65
Patrick	1.60	.69	27	14
Pittsylvania	1.10	.44	74	70
Powhatan	2.20	.87	7	3
Prince Edward	1.00	.57	84	31
Prince George	1.70	.62	20	26
Princess Anne	1.30	.31	44	116
Prince William	1.30	.50	44	48

(Continued next page)

TABLE II
(Continued)

COUNTIES	1	2	3	4
	$	$		
Pulaski	1.20	.35	61	105
Rappahannock	1.80	.45	15	64
Richmond	1.30	.29	44	119
Roanoke	1.30	.49	44	53
Rockbridge	1.20	.51	61	43
Rockingham	1.00	.41	84	80
Russell	1.70	.47	20	59
Scott	1.50	.51	33	46
Shenandoah	0.80	.28	107	121
Smyth	1.10	.37	74	101
Southampton	1.50	.56	33	35
Spotsylvania	1.20	.39	61	93
Stafford	2.10	.47	10	57
Surry	1.30	.39	44	89
Sussex	1.40	.47	37	55
Tazewell	0.60	.27	119	122
Warren	0.90	.23	98	125
Warwick	0.70	.50	113	49
Washington	1.20	.49	61	50
Westmoreland	1.20	.44	61	68
Wise	1.10	.68	74	17
Wythe	0.90	.34	98	110
York	1.60	.43	27	73
COUNTY AVERAGE	$1.36	$0.44		

(Continued next page)

TABLE II
(Continued)

	1	2	3	4
CITIES				
	$	$		
Alexandria	1.00	0.52	84	41
Bristol	1.30	.67	44	19
Buena Vista	0.70	.52	113	40
Charlottesville	0.60	.50	119	47
Clifton Forge	1.10	.81	74	8
Danville	1.00	.69	84	12
Fredericksburg	0.90	.54	98	39
Hampton	1.00	.70	84	11
Harrisonburg	0.80	.55	107	38
Hopewell	2.70	.51	3	44
Lynchburg	1.00	.81	84	7
Martinsville	1.20	1.07	61	1
Newport News	0.90	.69	98	15
Norfolk	0.90	.65	98	22
Petersburg	0.80	.87	107	4
Portsmouth	0.70	.83	113	6
Radford	1.30	.77	44	9
Richmond	1.00	.64	84	23
Roanoke	1.20	.69	61	13
South Norfolk	1.70	.65	20	21
Staunton	0.80	.49	107	51
Suffolk	0.60	.47	119	56
Waynesboro	No income data available			
Williamsburg	1.90	.98	13	2
Winchester	0.50	.40	124	86
CITY AVERAGE	$1.07	$0.66		
COUNTY AND CITY AVERAGE	$1.21	$0.53		

(Continued next page)

* Study by William H. Stauffer, " Local Effort for School Operations in Virginia Counties and Cities", 1947 - 1948, (Richmond, Va.: Richmond Times Dispatch, May 8, 1949, Sect. IV, p. 1.

** 1 is highest
125 in lowest

The National Bureau of Economic Research[3] mentions that incomes from wages, salaries and small business enterprises are usually earned in the same locality as that in which the individual lives. Accordingly, such income tends to fall within the same locality as wealth connected with this income. As a case in point at the opposite extreme:

> ....income from invested capital, the place of production of the income is likely not to correspond with that where the recipients reside. The bulk of industry, with the exception of agriculture, is conducted by corporations whose securities have a wide distribution. The mines of Arizona may be owned by stockholders in New York; hence, of the total income of the Arizona mines, only about 60 to 70 per cent is probably disbursed to the residents of the state of Arizona, i. e., the part that goes to wage and salary earners. The same is true to a lesser degree of ownership of other property. About one-third of the farm land in the country is owned by non-farmers; and it is conceivable that the owners of land in Iowa reside in Illinois, and the owners of land located in Illinois reside in Iowa. Evidently to trace the income of such land among the states would be next to impossible[4].

In the light of the above-mentioned discussion, it is noteworthy to study Table II in which are given data from the study by Stauffer[5] which was based upon true tax values of tangible property and data derived in this study based upon income. The Table reveals that all counties except Nelson County exert greater effort according to income than effort exerted according to wealth.

All cities except Petersburg and Portsmouth put forth greater effort according to income than effort exerted according to wealth.

The average burden carried by the one hundred counties combined, as based on income, represent $1.36 per $100 of income.

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3 Maurice Leven, Income in the United States, National Bureau of Economic Research, New York, N. Y.: 1925, pp. 41-43.

4 Ibid., p. 47

5 Stauffer, op cit., Sect. IV., p. 1

On the other hand, the average burden carried by the one hundred counties combined, as based on wealth, represents forty-four cents per $100 of wealth.

The average burden carried by the cities as calculated on the basis of income represents $1.07 per $100 of income. The average burden carried by the cities, calculated on the basis of wealth represents sixty-six cents per $100.

When the counties and cities are combined, the average effort exerted, calculated on the basis of income is $1.21 per $100 of income. The average effort exerted by the counties and cities combined, calculated on the basis of wealth is fifty-three cents per $100 of wealth.

These findings certainly reveal that for the most part and with only three exceptions, the counties and cities exert greater effort according to their income than effort exerted according to their wealth.

By using the statistical formula[6]

$$r = 1 - \frac{6 \Sigma D^2}{N(N^2-1)}$$

as a method of finding the degree of correlation between effort exerted according to income and effort exerted according to wealth among the counties and cities, it is found that there is positive relationship, since the calculation shows r to be $+.18$ as a coefficient of correlation among the counties and cities of Virginia. However, one should keep in mind that even though the correlation is positive, the degree of correlation is not high.

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6 Henry E. Garrett, Statistics in Psychology and Education, (New York, N. Y.: Longmans, Green Company, 1947), pp. 345-346.

CHAPTER IV

SUMMARY AND CONCLUSIONS

The first object of this study was to find in terms of income, a measure of ability to pay for public free education and of the effort exerted by the counties and cities of Virginia during the school year 1947-1948. In order to find this measure it was necessary to determine an estimate of the income of each locality, the amount of money expended by each locality for public free education, and the average daily attendance in the public schools of each locality.

Two measures of each county's and city's economic ability and effort are presented. One measure is based upon the amount of income and the other upon the assessed value of tangible wealth of the counties and cities. In both instances the number of children in average daily attendance in the public free schools is used as a measure of the size of the educational obligation of each locality.

The ability of a locality to support education as calculated on the basis of income was obtained by finding the number of dollars of income behind each child in average daily attendance in the public free schools.

The effort a locality exerted for education as calculated on the basis of income was obtained by dividing each county's and city's total expenditures for public free education by its total income.

The data presented indicate that as computed on the basis of income, the richest county of the one-hundred counties in Virginia

is 12.31 times as able to meet its educational obligations as the poorest county.

In terms of income the range of ability to pay for education among the counties and cities in Virginia extends from $1,370.97 in James City County to $16,879.83 in Arlington County.

Considered as groups, none of the twenty counties with the greatest ability to pay for education, as reflected by income, is within the group of twenty counties exerting the most effort.

Nine of the fifty counties composing the upper half of all counties in the State, in ability to pay for education make an effort equal to or greater than that for the counties as a whole, while forty-one of these fifty counties make less than average effort.

Of the fifty counties lowest in ability to finance education, thirty-one make an effort equal to or greater than average effort, and nineteen make less than average effort.

Forty-five of the one hundred counties rank higher in effort than in ability.

Sixty-two counties have below average ability. Thirty of the sixty-two counties with below average ability to support education are exerting above average effort and five counties are exerting average effort.

Thirty-eight counties have above average ability. Three of the thirty-eight counties with above average ability to support education exert above average effort and two counties exert average effort.

Thirty-three counties exert above average effort. Three of the thirty-three counties with above average effort have above average ability.

There is a negative degree of correlation between ability and effort among the counties and cities.

The second object of this study was to compare these findings with those of a similar study in which the measures of ability and effort were calculated on the basis of wealth defined in terms of the assessed valuation of tangible property[1].

The results of this comparison indicate that all counties and cities except three, appear to exert greater effort as calculated on the basis of income than the effort exerted as calculated on the basis of wealth.

The average effort exerted by the counties and cities as calculated on the basis of income is $1.21 per $100 of income. The average effort exerted by the counties and cities as calculated on the basis of wealth is fifty-three cents per $100 of wealth.

The degree of correlation between effort exerted as calculated on the basis of income and effort exerted as calculated on the basis of wealth among the counties and cities is found to be positive but low.

CONCLUSIONS

The evidence in this study seems to justify certain conclusions. The data in Table I show that generally greater effort to pay for education is made by the poorer than by the richer counties and cities

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1 William H. Stauffer, "Local Effort for School Operations in Virginia Counties and Cities, 1947-1948", (Richmond, Va.: Richmond Times Dispatch, May 8, 1949, Sect. IV. p. 1.

of the State. The wide differences among the localities in relative ability to support education are not offset by comparable differences in effort. However, the poorer localities, as a whole, made slightly greater effort to finance education than did the richer localities. Therefore, differences in the level of financial support provided education in poor as compared with rich school localities must be due to differences in ability rather than in effort. However, it is only logical to conclude that a rich locality would not have to exert as high a degree of effort in proportion to its ability as a poor locality would have to exert in proportion to its ability.

The amounts actually spent for education vary but they do not differ as much as the ability to spend. In general, the counties and cities best able to raise funds are making less-than-average effort to support education. The localities least able to raise funds are with few exceptions putting forth more effort for education, in proportion to their ability than well-to-do localities.

The ability of the counties and cities to pay for education varies and is unequal.

The degree of correlation between ability and effort among the counties and cities is negative.

Among the counties and cities which are high, low or average in ability, there may be found in each group counties and cities which are high, low and average in the effort which they make to pay for education.

The localities of Virginia, as a whole, expend a relatively small proportion of their income for the support of education.

It was found that all of the county and city localities of Virginia except three exert greater effort as calculated on the basis of income than effort exerted as calculated on the basis of wealth.

At this point, a question comes to light -- What is the most reliable measure of ability to pay? Is it the value of the tangible property in the community, or is it the amount of the community's income?

That the possession of property is not universally a reliable gauge of the ability to pay is suggested by Dr. W. H. Kiekhofer in Economic Principles, Problems, and Policies[2]. A pertinent part of his discussion follows:

> That the possession of property is universally a reliable gauge of the ability to pay must be denied. The mere possession of property is not an adequate measure of the ability to pay. The reason for this lies in the distinction between wealth and capital. Property in some forms of wealth is non-productive of money income. The possession of such property does not ipso facto confer any ability to pay upon its owner. It is only when the property possessed is income-yielding capital that it furnishes assurance of the ability to pay.

Income is defined as " that gain, usually measured in money, which proceeds from labor, business or property"[3].

The use of income as a measurement of the ability to pay is justified on the grounds that "wherever there is income there is ability to pay"[4].

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2 William H. Kiekhofer, Economic Principles, Problems, and Policies, (New York, N. Y.: D. Appleton Company, Inc.,), pp. 763-764.

3 William A. Nielson, Editor, Webster's New International Dictionary, Second Edition, (New York, N. Y.: G. & C. Marriam Company, Inc., 1934.

4 Kiekhofer, loc. cit., p. 759.

It is only logical to assert that the greater the amount of one's income, the greater is one's ability to pay. It would appear to be difficult to discover a fairer single basis for measuring ability to pay because income includes all money received from goods, services, labor and property.

Most services of government are ultimately paid for out of income, regardless of whether the income came from some form of property, business, services, goods, or labor. Therefore, it appears to be logical to use income as a basis for calculating ability to pay for the governmental service of education and the effort exerted in supporting it.

This study does not give a definitive answer as to which of the two, income or wealth, is the more reliable measure of ability to pay and effort exerted. However, there seems to be some justification for assuming that income is a more reliable measure of ability and effort because the data in this study suggest that such an inference may be drawn.

RECOMMENDATIONS

The conclusions in this study suggest that there is a need for closer study of the relation of both ability and effort to adequacy of financial support. They also suggest that the State should distribute special aid funds for education among the various localities on the basis of adequacy of financial effort and ability.

The State, in attempting to equalise educational opportunity, should consider the force of differences in income level among the

counties and cities of Virginia.

It is suggested that the State may consider income along with wealth as an index of ability to pay and effort exerted for public education, as a basis for the distribution of State financial school aid among the localities of Virginia.

It is further suggested that possibly some other factors might be considered along with the factors of income and wealth to be used as criteria for finding an index of ability to pay and effort exerted for public education. The differences demonstrated as resulting from calculations based on each of the two factors studied indicate that consideration of a single factor alone does not, perhaps, afford an adequate basis for judging ability and effort, and that other factors, determined by careful analysis, might well be taken into account in arriving at estimates.

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A P P E N D I X

TABLE LII

BASIC DATA IN RELATION TO LOCAL FINANCIAL ABILITY AND EFFORT TO SUPPORT FREE PUBLIC EDUCATION IN VIRGINIA, 1947 - 1948, AS CALCULATED ON THE BASIS OF INCOME (COUNTIES AND CITIES LISTED ALPHABETICALLY)

COUNTIES	Total Gross Income 1947-1948	No. of children in avg. daily attendance 1947-1948	Local expend. for Education 1947-1948	Ability (Column 1 ÷ Column 2)	Rank in Ability	Effort in % (Column 3 ÷ Column 1)	Rank in Effort
	1	2	3	4	5	6	7
	$		$				
Accomac	17,616,000	4,600	245,972.94	3829.56	38	1.4	34
Albemarle	16,023,000	4,235	279,229.33	3783.47	39	1.7	18
Allegheny **	23,490,560	4,686	299,245.78	5012.92	21	1.3	41
Amelia	2,791,000	1,670	86,203.27	1671.25	99	2.9	1
Amherst	7,942,000	3,267	112,109.50	2430.97	80	1.4	34
Appomattox	7,849,000	1,752	100,403.30	4480.02	27	1.2	56
Arlington	179,382,000	10,627	1,253,287.89	16879.83	1	0.7	93
Augusta	41,197,000	8,513	582,483.41	4839.30	22	1.4	34
Bath	4,781,000	1,225	80,231.40	3902.85	36	1.7	18
Bedford	14,764,000	5,338	282,804.20	2765.82	72	1.9	12
Bland	2,596,000	1,292	45,518.49	2009.28	93	1.8	13
Botetourt	7,942,000	2,982	171,381.37	2663.31	75	2.2	6
Brunswick	11,882,000	3,929	166,086.16	3024.17	65	1.4	34
Buchanan	15,308,000	8,129	186,427.48	1883.13	95	1.2	56
Buckingham	5,438,000	2,524	68,971.29	2154.51	88	1.3	41
Campbell	11,488,000	4,919	282,231.39	2335.43	84	2.5	4
Caroline	7,049,000	2,344	89,231.48	3007.25	66	1.3	41
Carroll	8,465,000	4,750	133,417.94	1782.10	97	1.6	24

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TABLE III
(Continued)

COUNTIES	1	2	3	4	5	6	7
	$		$				
Charles City	1,878,000	962	37,851.86	1952.18	94	2.0	10
Charlotte	5,777,000	2,856	76,056.00	2022.75	92	1.3	41
Chesterfield	15,022,000	5,217	364,669.17	2879.43	70	2.4	5
Clarke	6,977,000	1,174	80,917.98	5942.93	10	1.2	56
Craig	2,360,000	653	30,755.40	3614.08	47	1.3	41
Culpeper	12,774,000	2,535	142,214.29	5039.05	20	1.1	67
Cumberland	2,729,000	1,300	56,589.84	2099.23	90	2.0	10
Dickenson	9,491,000	5,242	129,474.85	1810.56	96	1.4	34
Dinwiddie	7,196,000	2,748	132,579.80	2618.63	76	1.8	13
Elizabeth City	62,278,000	5,846	352,797.14	10653.09	2	0.6	97
Essex	4,864,000	1,095	55,232.60	4442.00	29	1.1	67
Fairfax	32,348,000	9,963	938,127.28	3246.81	58	2.9	1
Fauquier	21,474,000	3,439	242,313.20	6244.25	6	1.1	67
Floyd	5,407,000	2,321	84,486.87	2329.59	85	1.6	24
Fluvanna	3,571,000	1,297	64,854.86	2753.27	73	1.8	13
Franklin	10,743,000	4,456	165,850.47	2410.90	83	1.5	30
Frederick	16,773,000	2,809	106,644.66	5971.16	9	0.6	97
Giles	9,440,000	3,284	211,162.52	2874.54	71	2.2	6
Gloucester	6,474,000	1,652	84,429.79	3918.88	35	1.3	41
Goochland	2,904,000	1,368	74,737.39	2122.80	89	2.6	3
Grayson	14,611,000	4,320	228,651.80	3382.17	51	1.6	24
Greene	2,155,000	889	16,390.90	2424.07	81	0.8	90
Greensville	11,051,000	2,554	106,003.63	4326.93	30	1.0	76
Halffax	23,454,000	7,632	286,921.40	3073.11	64	1.2	56
Hanover	14,591,000	3,274	178,866.05	4456.62	28	1.2	56
Henrico	33,557,000	5,844	411,513.69	5745.55	11	1.2	56
Henry	18,928,000	5,725	177,318.39	3306.20	56	0.9	84
Highland	2,391,000	828	37,089.59	2887.68	69	1.6	24

(Continued next page)

TABLE III
(Continued)

COUNTIES	1	2	3	4	5	6	7
	$		$				
Isle of Wight	10,271,000	2,728	143,006.81	3715.02	40	1.4	34
James City **	5,346,810	390	50,756.66	1370.97	100	0.9	84
King George	3,930,000	1,064	66,201.70	3693.60	41	1.7	18
King & Queen	2,596,000	1,075	47,019.22	2414.88	82	1.8	13
King William	7,829,000	1,382	73,052.09	5664.97	12	0.9	84
Lancaster	7,767,000	1,415	54,076.74	5489.04	15	0.7	93
Lee	19,115,000	7,800	200,293.36	2450.64	79	1.0	76
Loudoun	21,413,000	3,561	223,357.16	6013.19	8	1.0	76
Louisa	8,024,000	2,455	117,940.78	3268.43	57	1.5	30
Lunenburg	8,834,000	2,635	115,439.61	3352.56	53	1.3	41
Madison	4,207,000	1,368	55,249.15	3075.29	63	1.3	41
Mathews	5,582,000	1,104	62,084.04	5056.15	19	1.1	67
Mecklenburg	23,742,000	6,594	246,782.32	3600.54	48	1.0	76
Middlesex	5,182,000	1,259	51,806.30	4115.96	33	1.0	76
Montgomery **	16,545,940	4,722	220,152.08	3504.01	49	1.3	41
Nansemond	13,069,000	4,504	167,879.42	2901.64	68	1.3	41
Nelson	7,429,000	3,005	115,204.53	2472.21	77	0.2	100
New Kent	3,950,000	742	37,160.59	5323.45	16	0.9	84
Norfolk **	63,559,800	15,330	1,099,143.67	4146.10	32	1.7	18
Northampton	17,380,000	2,618	145,868.95	6638.65	4	0.8	90
Nottoway	16,068,000	2,883	158,113.34	5573.36	13	1.0	76
Northumberland	6,505,000	1,790	72,433.66	3634.07	45	1.1	67
Orange	14,632,000	2,217	107,219.28	6599.90	5	0.7	93
Page	10,486,000	2,857	115,093.14	3670.28	43	1.1	67
Patrick	7,367,000	3,215	116,755.24	2291.44	86	1.6	24
Pittsylvania	39,721,000	11,971	421,677.04	3318.10	55	1.1	67
Powhatan	2,986,000	963	68,461.72	3100.72	62	2.2	6
Prince Edward	14,734,000	2,840	147,346.19	5188.02	18	1.0	76

(Continued next page)

TABLE III
(Continued)

COUNTIES	1	2	3	4	5	6	7
	$		$				
Prince George **	8,159,200	1,770	137,085.97	4609.71	24	1.7	18
Princess Anne	16,837,000	4,374	213,815.62	3849.33	37	1.3	41
Prince William	13,780,000	3,058	182,948.13	4506.21	26	1.3	41
Pulaski	14,468,000	4,796	198,399.51	3433.69	50	1.2	56
Rappahannock	3,201,000	1,179	58,499.13	2715.01	74	1.8	13
Richmond	3,509,000	1,535	44,868.65	2285.99	87	1.3	41
Roanoke	41,720,000	8,755	541,546.36	4765.27	23	1.3	41
Rockbridge **	19,422,180	3,696	233,990.89	5254.91	17	1.2	56
Rockingham	39,285,000	6,498	374,454.30	6045.70	7	1.0	76
Russell	10,907,000	5,345	185,019.02	2040.59	91	1.7	18
Scott	10,014,000	5,704	154,515.43	1755.61	98	1.5	30
Shenandoah	17,463,000	3,853	144,780.86	4532.31	25	0.8	90
Smyth	19,453,000	6,059	216,148.14	3210.59	61	1.1	67
Southampton	17,329,000	4,736	255,412.87	3658.99	44	1.5	30
Spotsylvania	7,546,000	2,077	96,476.00	3633.12	46	1.2	56
Stafford	4,232,000	1,720	88,407.16	2460.46	78	2.1	9
Surry	3,171,000	977	41,997.88	3245.64	59	1.3	41
Sussex	7,654,000	2,274	107,885.84	3365.87	52	1.4	34
Tazewell	40,811,000	9,828	237,528.48	4152.52	31	0.6	97
Warren	14,498,000	2,611	137,302.04	5552.66	14	0.9	84
Warwick	31,888,000	4,354	231,017.63	7323.84	3	0.7	93
Washington	26,778,000	7,266	321,127.48	3685.38	42	1.2	56
Westmoreland	6,628,000	2,044	79,489.90	3242.66	60	1.2	56
Wise	37,485,000	12,673	397,231.76	2957.86	67	1.1	67
Wythe	18,160,000	4,617	171,813.60	3933.29	34	0.9	84
York	4,968,000	1,489	78,409.22	3336.46	54	1.6	24

(Continued next page)

TABLE III
(Continued)

CITIES	1	2	3	4	5	6	7
	$		$				
Alexandria	79,586,000	6,268	800,026.75	12,697.19	4	1.0	9
Bristol	15,526,000	2,607	206,182.93	5,955.50	20	1.3	4
Buena Vista *	4,555,820	862	32,196.71	5,285.17	22	0.7	20
Charlottesville	41,418,000	3,122	246,288.31	13,266.49	3	0.6	22
Clifton Forge *	8,253,440	981	94,110.45	8,413.29	17	1.1	8
Danville	53,085,000	5,185	536,952.39	10,238.18	16	1.0	9
Fredericksburg	16,640,000	1,617	141,442.72	10,290.66	15	0.9	14
Hampton	11,186,000	1,041	114,572.78	10,745.43	12	1.0	9
Harrisonburg	14,827,000	1,381	121,597.93	10,736.42	13	0.8	17
Hopewell *	9,200,800	1,797	247,853.17	5,120.08	23	2.7	1
Lynchburg	71,650,000	6,935	681,980.13	10,331.65	14	1.0	9
Martinsville	16,441,000	2,693	302,124.75	6,105.08	19	1.2	6
Newport News	78,452,000	6,411	706,441.10	12,237.09	6	0.9	14
Norfolk	300,430,000	20,308	2,846,329.87	14,793.67	1	0.9	14
Petersburg	55,380,000	4,977	458,351.44	11,127.18	10	0.8	17
Portsmouth	98,579,000	8,941	677,324.43	11,025.50	11	0.7	20
Radford *	10,141,060	1,437	135,060.27	7,057.10	18	1.3	4
Richmond	389,088,000	27,133	3,836,407.62	14,340.02	2	1.0	9
Roanoke	112,766,000	9,692	1,334,907.58	11,634.95	9	1.2	6
South Norfolk *	7,062,200	1,546	117,713.59	4,568.04	24	1.7	3
Staunton	19,565,000	1,596	158,213.02	12,258.77	5	0.8	17
Suffolk	20,789,000	1,706	131,492.62	12,185.81	7	0.6	22
Waynesboro	No Income data available						
Williamsburg *	7,694,190	1,351	149,413.32	5,695.18	21	1.9	2
Winchester	24,038,000	2,031	126,873.68	11,835.54	8	0.5	24

* Estimate. Income figures not quoted in Sales Management. Found ratio of City income to County income from figures given by Bureau of Population, University of Virginia, for the year 1947. Applied this ratio to County income, as quoted by Sales Management.

** Deducted estimated City income.

V I T A

The author was born in Nokesville, Virginia on September 3, 1917. He attended elementary and high school in Nokesville, Virginia, and received a B. S. degree from the Virginia Polytechnic Institute in 1940. During the period 1943-1946 he served in the United States Navy. In 1948 he entered the College of William and Mary as a candidate for the degree of Master of Education. He taught in Wilson Junior High School, Arlington, Virginia, during the school year 1949-1950.