

1955

# A study of the effect of the assessment ratio on state aid for public schools in Northampton County, Virginia

Paul Gray Watson Jr.

Follow this and additional works at: <http://scholarship.richmond.edu/masters-theses>



Part of the [Education Economics Commons](#)

---

## Recommended Citation

Watson, Paul Gray Jr., "A study of the effect of the assessment ratio on state aid for public schools in Northampton County, Virginia" (1955). *Master's Theses*. Paper 1133.

This Thesis is brought to you for free and open access by the Student Research at UR Scholarship Repository. It has been accepted for inclusion in Master's Theses by an authorized administrator of UR Scholarship Repository. For more information, please contact [scholarshiprepository@richmond.edu](mailto:scholarshiprepository@richmond.edu).

A STUDY OF THE EFFECT OF THE ASSESSMENT  
RATIO ON STATE AID FOR PUBLIC SCHOOLS  
IN NORTHAMPTON COUNTY, VIRGINIA

---

A Thesis  
Presented to  
the Graduate Faculty of  
The University of Richmond

---

In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science in Education

---

by  
Paul Gray Watson, Jr.

August 1955

LIBRARY  
UNIVERSITY OF RICHMOND  
VIRGINIA

*Approved 8/1/55  
E. F. Overton*

## ACKNOWLEDGEMENTS

For their help in making available pertinent material and for their valuable suggestions, the author wishes to express his appreciation to Mr. W. E. Bagwell, Treasurer of Northampton County, Virginia; Mr. J. G. Blount, Jr., Finance Director, Virginia State Board of Education; Mr. John L. Lancaster, Bureau of Economic Research and Population, Charlottesville, Virginia; Dr. Raymond B. Pinchbeck, Dean of Richmond College, University of Richmond, Virginia; Mr. M. Watkins Rhodes, Director Research, Virginia State Department of Taxation, Richmond, Virginia; Dr. William H. Stauffer, Economist and Tax Consultant, Richmond, Virginia; and Mr. Willard H. White, Assistant Tax Commissioner, State Department of Taxation, Richmond, Virginia.

Most directly, the author is indebted to Dr. Edward F. Overton, Chairman of the Department of Education, University of Richmond, for guidance.

TABLE OF CONTENTS

CHAPTER	PAGE
I. THE PROBLEM AND DEFINITIONS OF TERMS USED . . . . .	1
The problem . . . . .	1
Statement of the problem. . . . .	1
History of the problem. . . . .	1
Importance of the study . . . . .	2
Sources of data . . . . .	3
Method of procedure . . . . .	3
Definitions of terms used . . . . .	3
Aggregate assessment ratio. . . . .	3
Assessed value. . . . .	4
Assessment ratio. . . . .	4
Bona fide sale. . . . .	4
Land book . . . . .	4
Minimum Education Program Fund. . . . .	4
Real estate . . . . .	5
Salary Equalization Fund. . . . .	5
State sample. . . . .	6
True value. . . . .	6
Twenty-five per cent sample . . . . .	6
II. THE 1950 ASSESSMENT RATIO FOR NORTHAMPTON COUNTY. . . . .	7
The 1950 assessment ratio study . . . . .	7
III. THE 1950 ASSESSMENT VALUES FOR NORTHAMPTON COUNTY . . . . .	17
Taking the 25% sample . . . . .	17

CHAPTER	PAGE
Data from the 25% sample . . . . .	.19
IV. COMPARISON BETWEEN THE ASSESSED VALUATION DATA OF THE STATE SAMPLE AND THE 25% SAMPLE. . . . .	.20
Comparisons from Table VI in which variations were noted . . . . .	.20
V. INTERPRETATION OF FINDINGS AND SUMMARY OF PERTINENT POINTS . . . . .	.24
Sampling . . . . .	.24
Assessed value of an average piece of property	.24
Percentages of low valued property . . . . .	.25
VI. CONCLUSIONS AND RECOMMENDATIONS. . . . .	.26
Conclusions. . . . .	.26
Recommendations. . . . .	.28
BIBLIOGRAPHY . . . . .	.29
VITA . . . . .	.30

LIST OF TABLES

TABLE	PAGE
I. The 1950 Assessment Ratio Study for Northampton County . . . . .	8
II. Selected Data from the State Sample. . . . .	.13
III. Real Estate Assessment Ratios for 1944 in Virginia Counties and Cities Arranged to Show Variation According to Unit Sales Values . . . . .	.14
IV. Assessment Data from the State Sample. . . . .	.16
V. Assessment Data from the 25% Sample. . . . .	.18
VI. A Comparison of Assessment Values in the State Sample with Those of the 25% Sample. . . . .	.21

## CHAPTER I

### THE PROBLEM AND DEFINITIONS OF TERMS USED

#### I. THE PROBLEM

Statement of the problem. Since it is commonly recognized that real estate is the prime source of locally taxable wealth and that assessment values are the only controlled values in the assessment ratio, the problem was (1) to determine whether assessment values in the assessment ratio actually represented assessment values of the county as a whole; (2) to apply the information in (1) above to whether errors were made in determining the true value of locally taxable wealth in Northampton County which could affect the distribution of state educational monies to the county and hence to other localities as well.

History of the problem. For a number of years educators, statesmen, and tax experts in Northampton County have questioned the method used in the distribution of state educational funds to localities via the Minimum Education Program Fund and the Salary Equalization Fund. In so far as could be found, no one to this date has made a study to determine definitely whether the fixed factor in the money distributing formulas, true value of locally taxed wealth, was accurately represented by the use of the

true value factor which was derived by the assessment ratio applied to assessed values.

The present status of the county as far as aid from the Minimum Education Program Fund and the Salary Equalization Fund is concerned is illustrated by the following statement:

During the year 1953-54 our survey showed that Northampton County would have been above the 45 cents minimum requirement in expenditures for schools per \$100 of true valuation of locally taxable wealth for receiving aid from the Minimum Education Program Fund and the Salary Equalization Fund. During the year 1954-55, when the 45 cent rate was actually applied, Northampton County had a rate of 49 cents which enabled the county to participate in both funds during the year 1955-56. The sums received in 1954-55 were \$4,790.95 from the Minimum Education Program Fund and \$43,380.80 from the Salary Equalization Fund. During 1955-56 the county will receive approximately the same amounts from each fund.<sup>1</sup>

Importance of the study. Public school education is of grave concern to every citizen of the United States for in a democracy the people rule themselves. It is generally accepted that every child in the state should be given an equal opportunity for education. Equal opportunity suggests equitable distribution of state educational funds. This study will attempt to determine whether the use of the true value factor has produced possible inequalities.

---

<sup>1</sup>J. G. Blount, Jr., Finance Director of the Virginia State Board of Education on July 15, 1955. Permission to quote secured.



Sources of data. The sources of data were records made available by the State Department of Taxation from the files in Richmond, Virginia; records from the files of the Treasurer and Tax Commissioner of Northampton County at Eastville, Virginia; published information in the form of books and reports as listed in the bibliography; and interviews with persons who were familiar with various aspects of the problem.

Method of procedure. The method of procedure was a very simple descriptive approach using a comparison of assessment data compiled from the State Department of Taxation's 1950 Assessment Ratio Study for Northampton County with a 25% sample of the actual assessed values in the county. The comparison was made in such a manner as to disclose easily interpreted information from which accurate conclusions could be drawn.

Numerals indicating monetary values were rounded off to the nearest dollar, and decimal fractions were carried to four places and corrected to three.

## II. DEFINITIONS OF TERMS USED

Aggregate assessment ratio. The aggregate assessment ratio was interpreted as a term used to identify the per cent of total assessed value to the total sales value of a given series.

Assessed value. Assessed value shall be interpreted as that value assigned a piece of property for tax levying purposes.

Assessment ratio. The assessment ratio was interpreted as the percentage that the assessed value was of the bona fide sales value.

Bona fide sale. A bona fide sale shall be interpreted as one which represented a free market transfer. Such sales as those involving governmental or administrative agencies, eleemosynary institutions, transfers of convenience, and transfers from one family member to another shall be eliminated as unrepresentative of a bona fide sale.

Land Book. Land Book was interpreted as meaning the book containing the 1950 real estate assessments for Northampton County.

Minimum Education Program Fund. The Minimum Education Program Fund was interpreted in this paper exactly as stated in the 1954 Session of the Acts and Joint Resolutions of the General Assembly of the Commonwealth of Virginia. The pertinent portion is quoted below:

For providing a minimum educational program.....

A county or city, which meets the requirements stated below is eligible, subject to rules and regulations promulgated by the State Board of Education, to receive an

apportionment from this item to provide sufficient monies to operate a minimum educational program; a minimum educational program is defined as expenditure for school operation of not less than one hundred and seventy dollars per pupil in average daily attendance. To be eligible for an apportionment from this item, a county or city must:

a. . . . .

b. Have expended from local sources for school operation, exclusive of capital outlay and debt service, an amount equivalent to a uniform tax levy of forty-five cents per one hundred dollars (\$100) of true valuation of local taxable wealth within such county or city. The true valuation of local taxable wealth used for this purpose shall be that determined by the State Department of Taxation for the tax year 1950.<sup>2</sup>

Real estate. Real estate shall be interpreted as meaning land, including whatever is made part of or attached to it by nature or man, as trees, houses, etc. All property mentioned in this paper refers to real estate.

Salary Equalization Fund. The Salary Equalization Fund was interpreted in this paper exactly as stated in the 1954 Session of the Acts and Joint Resolutions of the General Assembly of the Commonwealth of Virginia. The pertinent portion is quoted below:

For salary equalization .....

It is provided that the State Board of Education shall distribute from the sums provided by this item and

---

<sup>2</sup>Acts and Joint Resolutions of the General Assembly of the Commonwealth of Virginia (Richmond: Commonwealth of Virginia, Division of Purchase and Printing, 1954, p. 968.

Item 194 $\frac{1}{2}$  to each county and city an amount equal to the amount paid to each such county and city during the year ending June 30, 1954, from Item 186, Chapter 716 of the Acts of Assembly of 1952.

Provided, however, that the State Board of Education shall make no distribution from Item 194 or Item 194 $\frac{1}{2}$  to any city or county which:

a. Has not expended from local sources for school operation, exclusive of capital outlay and debt service, an amount equivalent to a uniform tax levy of forty-five cents per one hundred dollars (\$100) of true valuation of local taxable wealth within such county or city. The true valuation of local taxable wealth used for this purpose shall be that determined by the State Department of Taxation for the tax year 1950.<sup>3</sup>

State sample. State sample shall be interpreted as meaning the sample of individual bona fide sales and the assessment value of these sales from which the State Department of Taxation derived the 1950 assessment ratio for Northampton County.

True value. True value was interpreted as meaning an assigned value of property which was intended to correspond with its actual value in a bona fide free market transfer. It was computed by dividing the assessed value by the assessment ratio.

Twenty-five per cent sample. The 25% sample shall be interpreted as meaning the 25% sample taken of the assessed values found in the 1950 Northampton County Land Book.

---

<sup>3</sup>Ibid., pp. 967-68.

## CHAPTER II

### THE 1950 ASSESSMENT RATIO FOR NORTHAMPTON COUNTY

This portion of the analysis of the true value factor was devoted to the study of the various aspects of the 1950 Assessment Ratio for Northampton County with special emphasis on the assessment data.

The basic materials used were the selling price and the assessed value of the 145 pieces of real estate, transferred by bona fide sales, that composed the sample used by the State Department of Taxation in calculating this assessment ratio.

Points to be covered in this chapter involve the use of the basic material from the state sample to establish data that is to be compared later with information from a large sample of the assessed values of Northampton County real estate.

#### I. THE 1950 ASSESSMENT RATIO STUDY

The number of bona fide sale items available to the State Department of Taxation for sampling purposes were relatively few. All of the bona fide items were utilized by the representatives of the department. Table I was constructed to give a complete view of the individual selling price, assessed value, and ratio of each piece of

TABLE I  
 THE 1950 ASSESSMENT RATIO STUDY  
 FOR NORTHAMPTON COUNTY

SELLING PRICE	ASSESSED VALUE	RATIO IN PER CENT
\$ 5,000	\$ 850	17.00
3,600	900	25.00
250	80	32.00
5,000	850	17.00
5,000	300	6.00
1,080	50	4.63
5,000	350	7.00
525	100	19.05
8,000	1,420	17.75
2,000	95	4.75
8,000	2,090	26.13
3,500	900	25.71
500	150	30.00
40,000	11,400	28.50
3,000	755	25.17
500	80	16.00
250	80	32.00
100	40	40.00
50	40	80.00
50	40	80.00
250	100	40.00
200	60	30.00
345	40	11.59
75	40	53.33
800	260	32.50
135	40	29.63
7,750	1,300	16.77
1,800	1,150	63.89
700	300	42.86
8,000	3,600	45.00
6,500	1,560	24.00
800	360	45.00
2,000	360	18.00
1,000	220	22.00
10,000	3,220	32.20
1,500	400	26.67
8,000	2,060	25.75
1,500	400	26.67
5,000	1,560	31.20

TABLE I (continued)

900	300	33.33
5,000	1,300	26.00
700	300	42.86
2,100	200	9.52
800	460	57.50
180	40	22.22
5,000	780	15.60
3,000	580	19.33
5,500	1,000	18.18
375	80	21.33
2,500	500	20.00
1,600	200	12.50
500	100	20.00
500	100	20.00
1,200	200	16.67
8,000	1,150	14.38
800	100	12.50
3,750	900	24.00
175	80	45.71
2,100	250	11.90
6,500	1,200	18.46
500	200	40.00
2,100	200	9.52
450	100	22.22
1,600	600	37.50
575	450	78.26
5,800	500	8.62
540	100	18.52
8,600	1,500	17.44
125	100	80.00
200	100	50.00
150	80	53.33
150	40	26.67
200	80	40.00
840	240	28.57
200	80	40.00
150	60	40.00
2,750	500	18.18
2,100	750	35.71
3,500	600	17.14
1,000	200	20.00
1,500	120	8.00
250	80	32.00
600	400	66.67
4,500	960	21.33
300	70	23.33
500	60	12.00
5,000	2,480	49.60
500	100	20.00
500	100	20.00

TABLE I (continued)

10,000	1,360	13.60
350	80	22.86
2,150	620	28.84
300	80	26.67
4,000	420	10.50
3,500	550	15.71
13,000	2,800	21.54
300	60	20.00
125	60	48.00
1,000	100	10.00
250	60	24.00
500	120	24.00
9,000	1,200	13.33
250	40	16.00
200	60	30.00
6,500	1,445	22.23
1,800	440	24.44
200	60	30.00
600	100	16.67
4,600	700	15.22
900	100	11.11
2,500	460	18.40
300	80	26.67
600	80	13.33
3,300	580	17.58
2,113	250	11.83
600	100	16.67
1,500	250	16.67
400	100	25.00
600	100	16.67
4,000	760	19.00
600	100	16.67
3,850	480	12.47
750	100	13.33
400	100	25.00
400	100	25.00
1,200	200	16.67
375	50	13.33
2,400	400	16.67
1,500	60	4.00
3,200	340	10.63
600	100	16.67
200	60	30.00
155	40	25.81
1,200	270	22.50
300	80	26.67
400	110	27.50
550	80	14.55
100	80	80.00
450	40	8.89



TABLE I (continued)

650	100	15.38
150	50	33.33
75	40	53.33
2,500	580	23.20
200	60	30.00
38	40	105.26
<hr/>		
TOTALS \$341,801	\$75,145	21.99
<hr/>		

real estate comprising the sample,<sup>1</sup>

The aggregate assessment ratio which was used to determine the true value of real estate in Northampton County was derived by dividing the total sale price of the state sample into the total assessed value of the state sample.

Table II gives a more complete breakdown of the data from Table I. The two most important items in Table II, and the prime reasons for its inclusion, were that first, it shows a gradual decrease in percentage of both ratio of assessment to sales and cumulative ratio as assessed values increase; second, \$518 was the assessed value of an average piece of real estate from this assessment ratio study.

It is commonly agreed that low valued properties are generally assessed high and high valued properties are assessed low. An excellent example of this was brought out in the 1946 Study of Property Values in Virginia With Comments on the Assessment Thereof in which Dr. William H. Stauffer made an analysis of 26,414 sales to construct the data presented in Table III.<sup>2</sup> In this table Dr. Stauffer

---

<sup>1</sup>Virginia State Department of Taxation Statistical and Research Division "Northampton County 1950 Ratio Study" (Richmond: 1950) p. 1. (Unpublished manuscript.)

<sup>2</sup>William H. Stauffer, A Study of Property Values in Virginia With Comments on the Assessment Thereof (Richmond: Virginia Electric and Power Company, 1946) p. 12.

TABLE II  
SELECTED DATA FROM THE STATE SAMPLE

(1) Sale price range in hundreds of dollars	(2) Number of items	(3) Total sale price	(4) Total assessed value	(5) Average assessed value	(6) Ratio of assessment(4) to sales(3) in per cent	(7) Cumulative ratio in per cent
0-1	5	\$ 288	\$ 200	\$ 40	69.44	69.44
1-2	12	1,695	710	59	41.89	45.89
2-3	14	3,100	1,000	71	32.26	37.58
3-4	9	2,945	620	69	21.05	31.51
4-5	6	2,500	550	92	22.00	29.26
5-6	13	6,690	1,740	134	26.01	27.99
6-7	8	4,850	1,080	135	22.27	26.74
7-8	3	2,150	700	233	32.56	27.25
8-9	5	4,040	1,420	284	35.15	28.38
9-10	2	1,800	400	200	22.22	28.01
10-20	16	21,980	4,860	338	22.11	25.52
20-30	13	29,212	5,165	397	17.62	22.67
30-40	10	34,200	6,585	659	19.25	21.66
40-50	4	17,100	2,840	710	16.61	21.01
50-60	10	51,500	9,970	997	19.43	20.57
60-70	3	19,500	4,205	1,402	21.56	20.67
70-80	1	7,750	1,300	1,300	16.77	20.52
80-90	6	48,600	11,820	1,970	24.32	21.23
90-100	1	9,000	1,200	1,200	13.33	20.97
100-up	4	73,000	18,780	4,695	25.73	21.99
<b>TOTAL</b>	<b>145</b>	<b>\$341,801</b>	<b>\$75,145</b>	<b>\$518</b>	<b>21.99</b>	<b>21.99</b>

TABLE III

REAL ESTATE ASSESSMENT RATIOS FOR 1944 IN VIRGINIA COUNTIES AND CITIES ARRANGED  
TO SHOW VARIATION ACCORDING TO UNIT SALES VALUES\*

Unit sales value of property sold	Average assessment ratios (per cent)		
	Counties	Cities	Counties & Cities
Under \$1,000	44.80	77.49	50.60
1,000 to 9,999	32.01	54.83	41.12
10,000 to 49,999	27.71	55.04	38.66
50,000 to Over	23.33	48.58	33.90
Grand Average (weighted)	30.20	58.66	41.10

\*The ratio values shown opposite each unit sales value bracket are the averages derived from the analysis of 26,414 sales, the grand averages are a result of a projection of the respective county and city ratios against the total assessed value of real estate in each of the 124 political subdivisions of the state.<sup>+</sup>

<sup>+</sup>Ibid., p. 12.

showed that as the sale values of properties increased the average assessment ratio decreased.

The first portion of the problem deals with the question of whether assessment values of the 1950 Assessment Ratio Study were representative of the assessed values of the county. Any data given that concerns sale prices or actual ratios was only given to acquaint the reader with the format of the 1950 Assessment Ratio Study.

Table IV deals with the assessment values of the 1950 Assessment Ratio Study. Contained in it in columnar form and labeled from (1) to (6) is (1) an arbitrarily established assessed value range in dollars; (2) the assessed value of property in each range; (3) the number of pieces of property in each range; (4) the average assessed value of property in each range; (5) the per cent of the number of pieces of property to the total number of pieces in the study; (6) and the per cent the assessed value in each range is of the total assessed value.

The factors especially noted upon construction of Table IV were that there was no assessed values in the range between \$5,000 and \$9,999, and only one piece of property was included in the range above \$5,000.

TABLE IV  
ASSESSMENT DATA FROM THE STATE SAMPLE

(1) Assessed value range	(2) Assessed value of property	(3) Number of pieces of property	(4) Average assessed value of property	(5) Per cent of pieces of property to total number of pieces	(6) Per cent assessed value is of total assessed value
\$0-40	\$ 520	13	\$ 40	9.0	.1
41-71	880	15	59	10.3	1.2
72-135	3,925	43	91	29.7	5.2
136-338	4,490	19	236	13.1	6.0
339-997	20,435	35	584	24.1	27.2
998-2,000	17,145	13	1,319	9.0	22.8
2,001-4,999	16,250	6	2,708	4.1	21.6
5,000-9,999	0	0	0	0	0
10,000-up	11,400	1	11,400	.7	15.2
<b>TOTAL</b>	<b>\$75,145</b>	<b>145</b>	<b>\$518</b>	<b>1.00</b>	<b>.999</b>

## CHAPTER III

### THE 1950 ASSESSMENT VALUES FOR NORTHAMPTON COUNTY

To pursue the first portion of the problem, Table V was constructed following exactly the same form as Table IV. In Table V a 25% sample, taken from the 1950 Land Book for Northampton County, was used as a basis for calculation. This chapter furnishes information from the 25% sample which is to be used as comparative data with that derived from the assessed values from the 1950 Assessment Ratio Study in Table IV.

#### I. TAKING THE 25% SAMPLE

Since three previous attempts to take a valid sample from the 1950 Land Book gave unsatisfactory results, the author consulted with Mr. Alfred L. Wingo, Supervisor of Research, Division of Research and Planning, State Department of Education, and Dr. William H. Stauffer, Economist and Tax Consultant. The outcome was that all previous work was discarded and all pieces of property were numerically listed straight through the Land Book regardless of alphabetical arrangement and geographical location. From this list every fourth item was selected. This assured the equitable sampling of geographical location and family holdings. One fourth of the assessed value of the 5,975 items totaled

TABLE V  
ASSESSMENT DATA FROM THE 25% SAMPLE

(1) Assessed value range	(2) Assessed value of property	(3) Number of pieces of property	(4) Average assessed value of property	(5) Per cent of pieces of property to total number of pieces	(6) Per cent assessed value is of total assessed value
\$0-40	\$ 2,593	71	\$ 37	4.8	.2
41-71	4,051	70	58	4.8	.2
72-135	17,345	183	95	12.2	1.0
136-338	60,002	265	226	17.7	3.6
339-997	253,471	412	615	27.5	15.0
998-2,000	356,003	262	1,740	17.5	22.2
2,001-4,999	501,989	172	2,918	11.5	29.7
5,000-9,999	320,554	49	6,542	3.2	19.0
10,000-up	163,706	10	16,371	.6	9.7
<b>TOTAL</b>	<b>\$1,679,714</b>	<b>1,494</b>	<b>\$1,124</b>	<b>.998</b>	<b>1.006</b>



\$1,679,714 which was only \$10,665 short of the actual assessed value of one fourth of the county.

## II. DATA FROM THE 25% SAMPLE

Points of note disclosed by Table V were that no assessed value ranges were devoid of property, and the \$1,124 was the assessed value of an average piece of property.

## CHAPTER IV

### COMPARISONS BETWEEN THE ASSESSED VALUATION DATA OF THE STATE SAMPLE AND THE 25% SAMPLE

This chapter is concerned with the establishment of comparative data from the assessment portion of the state sample and the 25% sample.

The material used was the data comprising Tables IV and V. In order to facilitate reference to this data Table VI was constructed in such a manner as to include the information in Tables IV and V using the same format as found in these tables.

#### I. COMPARISONS FROM TABLE VI IN WHICH VARIATIONS WERE NOTED

The first comparison in which variations were noted was in columns two and three. In column two the total assessed value of the state sample is \$75,145. In column three the total number of pieces of property is 145. By dividing the total assessed value of the state sample by the total assessed value of the county, \$6,761,515, a ratio of assessed value of the state sample to the original was shown to be 1.1%, whereas, by dividing 145, the pieces of property in the state sample, by 5,975, the total number of pieces of property in the county, a ratio of the total number of properties in the state sample to the total number of

TABLE VI

A COMPARISON OF ASSESSMENT VALUES IN THE STATE SAMPLE WITH THOSE OF THE 25% SAMPLE

(1) Assessed value range	(2) Assessed value of property	(3) Number of pieces of property	(4) Average assessed value of property	(5) Per cent of pieces of property to total number of pieces	(6) Per cent assessed value is of total assessed value
\$0-40	\$ 520 (2,593)*	13 (71)	\$ 40 (37)	9.0 (4.8)	.1 (.2)
41-71	880 (4,051)	15 (70)	59 (58)	10.3 (4.8)	1.2 (.2)
72-135	3,925 (17,345)	43 (183)	91 (95)	29.7 (12.2)	5.2 (1.0)
136-338	4,490 (60,002)	19 (265)	236 (226)	13.1 (17.7)	6.0 (3.6)
339-997	20,435 (253,471)	35 (412)	584 (615)	24.1 (27.5)	27.2 (15.0)
998-2,000	17,145 (356,003)	13 (262)	1,319 (1,740)	9.0 (17.5)	22.8 (22.2)
2,001-4,999	16,250 (501,989)	6 (172)	2,708 (2,918)	4.1 (11.5)	21.6 (29.7)
5,000-9,999	0 (320,554)	0 (49)	0 (6,542)	.0 (3.2)	.0 (19.0)
10,000-up	11,400 (163,706)	1 (10)	11,400 (16,371)	.7 (.6)	15.2 (9.7)
TOTAL	\$ 75,145 (\$1,679,714)	145 (1,494)	\$518 (\$1,124)	1.00 (.998)	.999 (1.006)

\*25% sample is shown wherever a parenthesis appears.

properties in the original was 2.4%. The same calculations performed using the total assessed value and the number of pieces of property for the 25% sample resulted in the ratio of the total assessed value of the 25% sample to that of the original was 24.99%, and the ratio of items in the 25% sample to that of the original as 25%.

The second comparison in which variation was noted was in column four. In the state sample the assessed value of an average piece of property was \$518. The actual assessed value was determined by dividing the total number of pieces of property in the county, 5,975, into the total assessed value of the county, \$6,761,515. The actual assessed value of an average piece of property was found to be \$1,132. This figure is only eight dollars more than the \$1,124 value of the average piece of property in the 25% sample. By dividing the assessed value of an average piece of property in the county into the assessed value of an average piece of property in the state sample, the ratio of state sample to original in assessed value of an average piece of property was 44.8%.

In the third comparison the percentage of pieces of property to the total number in the state sample varied widely with that of the 25% sample in seven of the nine ranges of assessed value.

Column five indicates, using simple addition, that

86.2% of the total number of items in the state sample were assessed in the first five very low ranges, the valuation of which extended from zero to \$997. In the 25% sample this percentage is only 67.

The fourth comparison deals with the percentage that the assessed value is of the total assessed value of each sample. The first five low ranges of assessed value in the state sample indicated 46.6% and the 25% sample only 20%. Simple addition in column six will produce these figures.

## CHAPTER V

### INTERPRETATION OF FINDINGS AND SUMMARY OF PERTINENT POINTS

This chapter is devoted to the interpretation of the comparative data compiled in Chapter IV and to the disclosure of facts that might indicate errors in the calculation of the true value of the county.

The descriptive method is used covering the four units of comparison listed in the previous chapter, and the points to be covered follow these units.

#### I. SAMPLING

From the first comparison made in Chapter IV, the interpretation is that the state sample did not adhere to generally accepted practices in sampling, in that the percentage of assessed value was less than half that of the percentage of pieces of property used. The 25% sample did adhere to generally accepted practices in sampling for when tested the results showed that there was a close balance between the percentage of items and the percentage of property value; moreover, the size of the 25% sample was much larger than is generally used.

#### II. ASSESSED VALUE OF AN AVERAGE PIECE OF PROPERTY

From the second comparison the state sample indicated

the assessed value of an average piece of property to be less than half the value of that of an average piece in the 25% sample, and only 44.8% of that of the actual value of an average piece of property. In the 25% sample the average piece was only eight dollars less than the actual value. This data is interpreted also to mean that the state sample did not conform to generally accepted principles of good sampling.

### III. PERCENTAGES OF LOW VALUED PROPERTY

The third and fourth comparisons in Chapter IV are interpreted to mean that low valued property was predominately used in the state sample. The 86.2% of the numbers of pieces of property in the first five ranges represented 46.6% of the valuation and in the 25% sample the percentages were 67 to 20 respectively.

## CHAPTER VI

### CONCLUSIONS AND RECOMMENDATIONS

Herein are given the conclusions derived from generally accepted facts in combination with the pertinent data in the previous chapters.

Recommendations are made which are intended to point out possibilities of improving the accuracy of the true value factor found in the formulas for the distribution of state monies from the Minimum Education Program Fund and the Salary Equalization Fund.

#### I. CONCLUSIONS

The first conclusion is that the state sample was not a valid sample because it was too small and only partially represented the property in the county, and assessment values in the county are not accurately represented by assessment values in the assessment ratio.

It is also concluded that the true value of the county of Northampton, being based on the assessment ratio, could not possibly be correct unless made so by accidental skewing.

The third conclusion is that since the true value of Northampton County was based on an assessment ratio, the assessment part of which tended greatly toward the low valued property of the county, the ratio if properly attained would



be such that Northampton County would possibly be excluded from receiving monies from the Minimum Education Program Fund and the Salary Equalization Fund.

Northampton County has been slightly above the 45 cents per \$100 minimum requirement, and the average piece of property in the state sample assessed for only 44.8% of the assessed value of the average piece in the county. High valued property normally has a low assessment ratio. The lower the assessment ratio, the higher the true value becomes. The higher the true value, the more effort a locality has to make to reach the minimum of 45 cents per \$100 of assessed value as set forth in the requirements for receiving aid from the Minimum Education Program Fund and the Salary Equalization Fund.

The final conclusion is that there is no way to weight the values in the state sample to produce a reliable ratio, since the sample is hopelessly unbalanced in that only one piece of property in the sample was valued above \$5,000. The assessment ratio of one piece of property in the high value range from \$5,000 up could hardly be used as a basis for the ratio of all property in this range especially since the 25% sample showed that, by simple addition in column six of Table V, 28.7% of the assessed value of all property in the county fell in this range.

## II. RECOMMENDATIONS

The writer recommends that the State Commissioner of Taxation have prepared a standard form similar to Table IV to be used by local treasurers. When this form is properly filled out the percentage of pieces of property in each range to the total number of pieces and the percentage of assessed value in each range to the total assessed value can be used to help check the validity of any assessment ratio sample that is made.

It is further recommended that in areas where few transfers are made, the year preceding the sample year plus the year of the sample be used. In situations where a certain range of assessed values has an insufficient number of bona fide transfers recorded, the locality should be required to estimate the sale value of sufficient properties in the range to complete the sample.

## BIBLIOGRAPHY

- Acts and Joint Resolutions of the General Assembly of the Commonwealth of Virginia. Richmond: Commonwealth of Virginia, Division of Purchase and Printing, 1954.
- Blount, J. G., Jr., Finance Director of the Virginia State Board of Education. Statement made during personal interview. Richmond: July 15, 1955.
- Federation of Tax administrators. Guide for Assessment-Sales Ratio Studies. Report of a committee consisting of E. L. Maynard, et al. Chicago: Federation of Tax Administrators, 1954.
- Groves, Harold M. Financing Government. Revised edition. New York: Henry Holt and Company, 1946.
- Moehlman, Arthur B. School Administration. Cambridge: The Riverside Press, 1940.
- "Northampton County Land Book." Court House at Eastville, Virginia: 1950. (Unpublished manuscript.)
- Stauffer, William H. A Study of Property Values in Virginia with Comments on the Assessment Thereof. Richmond: Virginia Electric and Power Company, 1946.
- Virginia State Department of Taxation Statistical and Research Division. "Northampton County 1950 Ratio Study." 1950. (Unpublished manuscript.)

## VITA

Paul Gray Watson, Jr., son of Reverend and Mrs. Paul G. Watson of Marshall, Virginia, was born in Girdletree, Maryland on December 28, 1917. He was graduated from Cambridge High School, Cambridge, Maryland in 1935, and entered the University of Richmond, Virginia where he received his B. A. Degree in 1940.

His public school teaching career began in 1940 when he became assistant principal of Blue Ridge High School, Blue Ridge, Virginia. In 1941 he became assistant principal of Boykins High School in Boykins, Virginia where he remained until the Spring of 1943. At this time he volunteered for service as an officer in the United States Navy.

Upon discharge from active military duty in 1946, he returned to the teaching profession as head of the science department at Glen Allen High School, Glen Allen, Virginia. The following year he began his graduate program at the University of Richmond, Virginia. In 1950 he completed the courses of study leading to a Master of Science Degree in Education, however, he was recalled to active military duty for the duration of the Korean Conflict prior to having completed the thesis requirement. His thesis work was resumed in absentia in 1953 when he became principal of Cape Charles High School, Cape Charles, Virginia. He is

candidate for the degree in August, 1955.

At present Mr. Watson, his wife, the former Estelle Morton of Kinston, North Carolina, and two daughters, Jan and Sabra, reside in Richmond, Virginia where he was recently appointed as principal of the Lakeside Elementary School.