Report to the Colorado General Assembly:

SALES RATIO STUDY

Part One

COLORADO LEGISLATIVE COUNCIL

RESEARCH PUBLICATION NO. 46

December 1960

LEGISLATIVE COUNCIL

OF THE

COLORADO GENERAL ASSEMBLY

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The Legislative Council, which is composed of five Senators, six Representatives, and the presiding officers of the two houses, serves as a continuing research agency for the legislature through the maintenance of a trained staff. Between sessions, research activities are concentrated on the study of relatively broad problems formally proposed by legislators, and the publication and distribution of factual reports to aid in their solution.

During the sessions, the emphasis is on supplying legislators, on individual request, with personal memoranda, providing them with information needed to handle their own legislative problems. Reports and memoranda both give pertinent data in the form of facts, figures, arguments, and alternatives.

LEGISLATIVE COUNCIL

REPORT TO THE

COLORADO GENERAL ASSEMBLY

PART I

SALES RATIO

REPORT FOR 1959-1960

AND

1957-1960

Research Publication No. 46

COLORADO GENERAL ASSEMBLY

LEGISLATIVE COUNCIL

ROOM 343, STATE CAPITOL
DENVER 2, COLORADO
KEYSTONE 4-1171 — EXTENSION 287

LETTER OF TRANSMITTAL

December 9, 1960

MEMBERS COLORADO GENERAL ASSEMBLY

Dear Colleagues:

Transmitted herewith is Part I of the report on the sales ratio study conducted by the Legislative Council. This report presents sales ratio data for the fiscal year 1959-1960 and for the three years 1957-1960 combined.

Part II of the sales ratio report will contain the detailed figures for each county by class of property for 1959-1960 and 1957-1960 and will be submitted prior to the legislative session of 1961.

This report has been prepared for the General Assembly pursuant to H.B. 96, passed in 1960 during the Second Regular Session of the Forty-second General Assembly.

During the course of the study this year, the Legislative Council requested the Colorado Tax Commission to make spot appraisals in several counties in order that a check on the validity of the sales ratios could be made. The results of those appraisals are discussed within this report. We urge members of the General Assembly to review that section closely.

Cordially,

Charles Conklin

Charles Conklin
Chairman
Colorado Legislative Council

FOREWORD

House Bill 96 passed at the First Regular Session of the 42nd General Assembly directed the Legislative Council to issue a report on sales ratios for the periods July 1, 1959, to June 30, 1960, and July 1, 1957 to June 30, 1960, to the First Regular Session of the Forty-third General Assembly.

This is the first part of a two-part report on the results of the sales ratio study for 1959-1960 and the three-year period 1957-1960. Part I describes the method used in arriving at the sales ratio figures and gives the county ratio figures, the rural and urban ratio figures for each county, and the state-wide ratio by classes of property. Part II of the report will give detailed figures by class of property and by county.

Part I will be available for general distribution. The figures presented in Part II of the sales ratio report will include the number of conveyances in each property class, a frequency distribution showing the range of individual sales ratios and the sales ratios for all counties by class of property where sufficient sales occurred to permit the computation of sales ratios. The detailed data will be presented for 1959-1960 and 1957-1960. The second part of the sales ratio report will not be available for wide distribution. However, those who are interested in the details can obtain a copy from the Legislative Council.

As required by the terms of H.B. 96, the Legislative Council certified the sales ratio information to the State Department of Education on November 17, 1960.

The Legislative Council wishes to thank the county assessors, the clerks and recorders, and other public officials, as well as many private citizens and organizations, who cooperated with the staff in gathering the information reported herein.

Lyle C. Kyle
Director

December 9, 1960

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THE COLORADO SALES RATIO STUDY

1959-1960 and 1957-1960

In the second regular session of the 42nd General Assembly, the Legislative Council was directed to continue its sales ratio study and to report to the State Board of Education the sales ratio for the fiscal year ending June 30, 1960, and the three-year sales ratio average for the three fiscal years ending on that date for each county in the state and for the state as a whole.[1]

In view of the conviction that "a sound and equitable program of state support of education requires that real and personal property in the several counties and school districts of the state be uniformly and equitably assessed"[2] and the further conviction that significant differences in assessment levels[3] existed, the General Assembly had selected the sales ratio method as one means of achieving increased uniformity in assessments and had directed the Legislative Council to make the Sales Ratio Study for 1957-1958; it had likewise directed the Council to make the study for both 1958-1959 and 1957-1959.[4] Reports on these studies, in two parts each, were issued as of December, 1958, and December, 1959.[5]

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1. H.B. 96, Second Session, 42nd General Assembly, 1960.

2. H.J.R. No. 31, First Session, 41st General Assembly, 1957.

3. An assessment level, as the term is used here, is a measure of the average relationship between the assessed value and the market value of a group of properties such as one-family dwellings, commercial properties, or all property classes combined in a county or in the state as a whole. For example, single family homes, as a class of property, may be assessed at 25 per cent of market value on an average and commercial properties, as a class, may be assessed at 35 per cent of market value. The two figures represent two different levels of assessment.

4. S.J.R. No. 21, First Session, 42nd General Assembly, 1959.

5. Colorado Legislative Council, "Sales Ratio Study" for 1957-1958, Part One (Research Publication No. 27, December, 1958) and Part Two (Research Publication No. 29, December, 1958), and "Sales Ratio Study" for 1958-1959, Part One (Research Publication No. 34, December, 1959) and Part Two (Research Publication No. 35, December, 1959).

Methodology of the Sales Ratio Study

In continuing the sales ratio study, the Legislative Council has employed the methodology developed in the course of the first year's study, as set forth in the indicated publications of the Legislative Council for the earlier years. For a detailed statement of this methodology, the reader is referred to Part One of either of these publications.

Contrary to the plan followed in the earlier years of the study, transfers of vacant urban land have been excluded from the computation of the ratios for the third year and from the three-year average ratios. Because significant differences were found to exist among the ratios for the several property classes distinguished, property transfers under conditions wherein changes of use and hence changes in classification were contemplated have been excluded from the study since its inception. The exclusion of vacant urban lands is based upon the reasoning that many, perhaps the majority, of the transfers of such land, result in definite use changes. Because vacant urban land constitutes only 1.5 per cent of the total locally assessed real property on the tax rolls state-wide, this exclusion has small effect (only 0.2 of a percentage point) upon the state-wide average ratio for the three years combined.

Since the inception of the study, letters have been sent routinely to the buyers and/or sellers of farm properties in rural areas and of commercial and industrial properties in urban areas to determine whether items like growing crops, equipment, and inventory were included in the reported considerations and, if so, the value of such items so that the necessary corrections could be made. Because other items than these were believed to have a bearing on the usability of certificates reporting transfers of farm properties, the letter to be sent to the buyers of such properties was revised for the third year's study to include them.

Specifically, an attempt was made to determine in each case whether the property in question was bought for farm purposes; when found that it was bought for other than farm purposes, the certificate reporting the transaction was excluded from the study. In the case of a "yes" answer to a question (asked in all cases) as to whether "speculative considerations entered into the purchase price," the certificate was likewise excluded. The transaction was excluded also in the case of a "yes" answer to questions concerning facts pertaining to such items as wheat allotment and soil bank which may have affected the amount of the consideration.

In response to reports indicating that a sizeable number of farm properties were bought to add to existing units under conditions involving willingness to pay abnormally high prices for them, a further question was asked to determine whether the purchase was made to add to an existing unit. If the answer to this question was "yes," it was likewise asked whether the "price paid was excessive but enlargement was necessary to make operation profitable," or "price paid was about right," or "property was bought at a bargain." If payment of an excessive price was indicated, the certificate was excluded from the study.

As noted in a later paragraph, the over-all farm ratio state-wide, as determined for the third year of the study by the procedure outlined above, is slightly smaller than that for the second year. For this reason, it is believed that the indicated additional exclusions of certificates from the computation of the sales ratios had comparatively little effect on the state-wide farm ratios, though it is possible that the effect was substantial in a few of the counties.

Further discussion of the rationale of the methodology employed in the study led to the suggestion that an old one-family dwelling is sometimes bought under circumstances involving a contemplated change of use. Accordingly, many letters were sent to the buyers of one-family dwellings over 48 years old to determine whether a change of use was planned. When this was found to be the case, the certificate was discarded. It is noted, however, that no change of use was indicated in an estimated 95 per cent plus of the cases.

Results of the Study

As noted above, vacant urban land has been excluded from the computation of the ratios for the third year of the study and from the three-year average ratios, whereas such exclusion was not made in the earlier years. This exclusion has the effect of raising the ratios by approximately 0.2 of a percentage point on an average -- from 27.1 per cent in the case of the state-wide average for the three years combined, for example, to 27.3 per cent. Because the effect is small, comparisons of the data (one year with another by counties or for the state as a whole) are not marred to any great extent.

Examination of the data for the three years separately indicates that the sales ratio state-wide, though showing a decrease each year from the preceding, decreased less from the second year to the third year than it did from the first year to the second year. The over-all ratios are: 27.9 per cent for the first year, 27.0 per cent for the second, and 26.9 per cent for the third. The corresponding state-wide urban ratios are 29.5 per cent, 29.3 per cent, and 29.3 per cent, respectively; and

the corresponding state-wide rural ratios are 24.3 per cent, 22.1 per cent, and 22.0 per cent, respectively (Table I).

While there is rather wide variation in the sales ratios for individual counties from one year to another, it is noted that the change from the two-year average ratios by counties, as determined a year ago, to the three-year average ratios, as now determined, is remarkably small in most cases. Thus, the three-year county-wide ratios differ from the two-year county-wide ratios by less than one percentage point in 51 of the 63 counties and by less than two percentage points in 59 of the counties. The four counties for which these differences are two percentage points or more are Garfield, Mineral, Saguache, and Sedgwick.

These facts suggest that a high degree of stability in the two-year average ratios and particularly in the three-year average ratios constitute dependable measures, for most of the counties, of the average relationship existing during the three-year period between the assessed value of locally assessed real property and its market price.

The differences between the two-year and the three-year average ratios state-wide, by class of property, are likewise quite small on the whole. For ten of the twelve property classes distinguished, these differences are less than 0.5 of a percentage point. For miscellaneous rural land without improvements the difference is 0.6 of a percentage point and for industrial buildings it is 0.9 of a percentage point. For none of the classes is the difference as large as one percentage point.

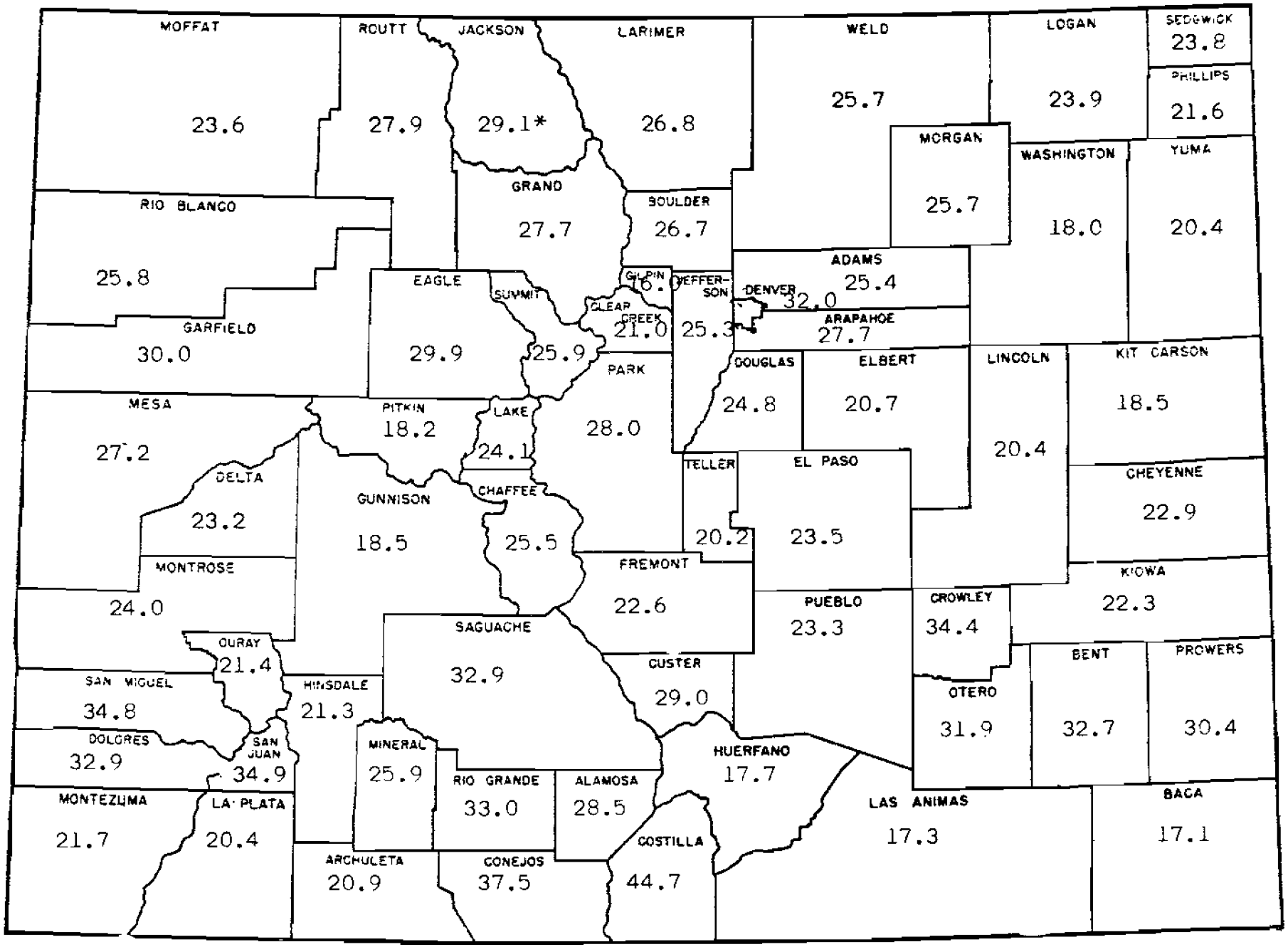
In six of the twelve classes of property there were small decreases in the sales ratio state-wide from the second year of the study to the third; in five of them there were small increases; and in one, commercial buildings, there was no change in the ratio when expressed to the nearest tenth of one per cent. For agricultural properties with and without improvements combined, there was a decrease of 0.5 of a percentage point from the second year to the third -- from 21.8 per cent in 1958-1959 to 21.3 per cent in 1959-1960.

The range within which the middle half of the sales ratios fall when arranged from low to high is slightly less for the three years combined than it is for the two years. In the three-year period it was 10.9 percentage points while in the two-year period it was 11.0 percentage points. This middle-fifty-per-cent spread is greatest for commercial buildings and least for one-family dwellings one to eight years old.

For summary data on number of certificates, sales ratios, and the middle-fifty-per-cent spread for each county, see Table I and for similar data for each class of property state-wide, see Table II. The county sales ratios for the third year of the study and for the three years combined are presented in Chart I and Chart II, respectively.

Chart I

SALES RATIOS BY COUNTIES OF COLORADO FOR FISCAL YEAR 1959-1960

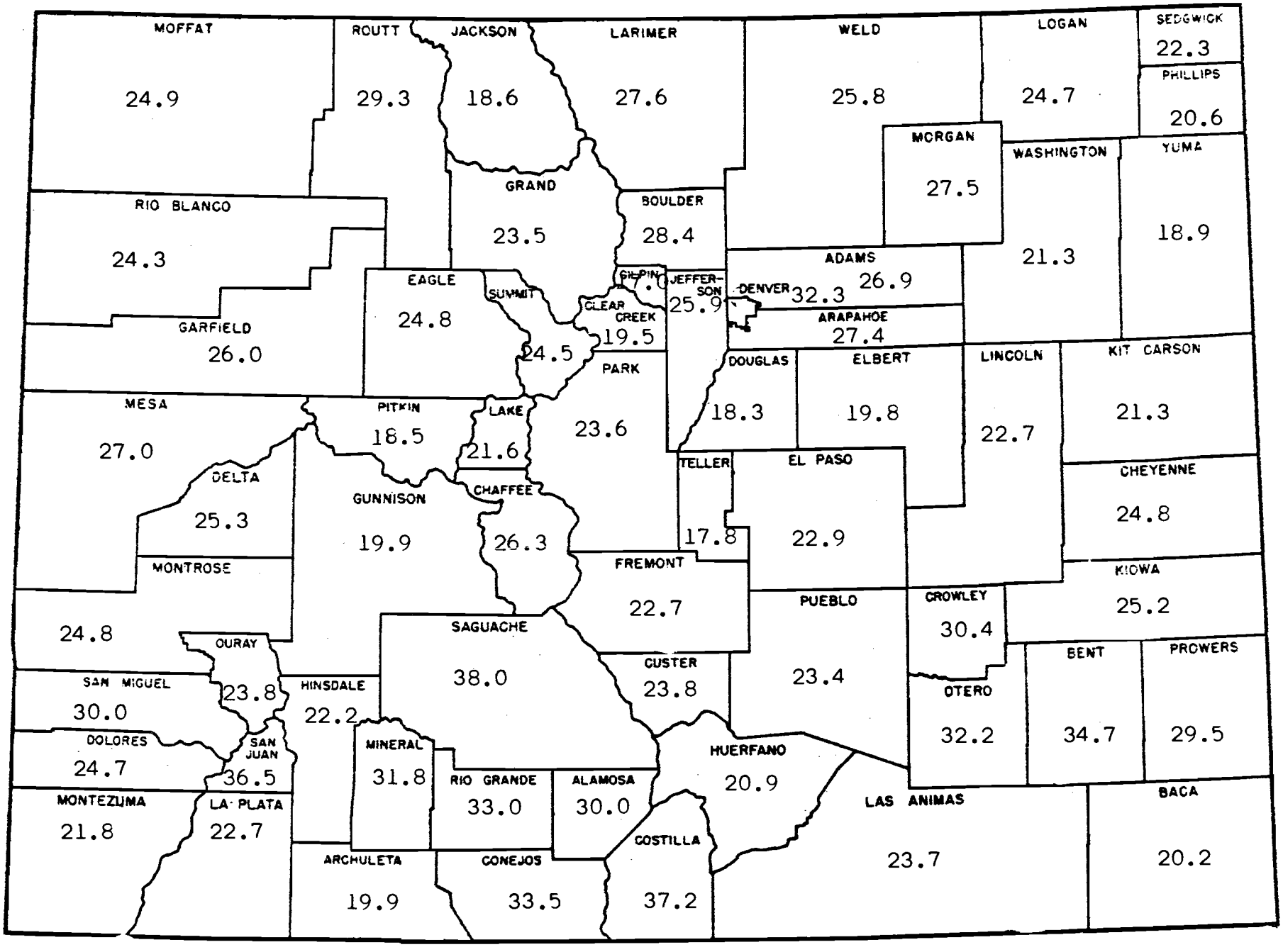


Expressed in Percentage Form

* For urban areas only in Jackson County

Chart II

SALES RATIOS BY COUNTIES OF COLORADO FOR THE THREE-YEAR PERIOD, 1957-1960



Expressed in Percentage Form

TABLE I

Average Sales Ratios and Average Degree of Concentration of the Middle Half of the Ratios by County: Total, Urban, and Rural For Each of Three Years and for Combined Years[a]

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Adams												
First Year ('57-'58)	1,587	27.6%	4.3	4.1	1,412	29.3%	3.8	4.5	175	24.2%	5.6	3.1
Second Year ('58-'59)	2,028	25.5	4.0	4.7	1,857	27.7	3.6	5.2	171	21.0	4.5	4.0
Third Year ('59-'60)	1,929	25.4	3.9	6.7	1,484	30.3	3.9	4.4	445	18.0	3.9	10.3
Two Years ('57-'59)	3,615	26.5	3.7	4.5	3,269	28.6	3.4	4.8	346	22.4	4.6	3.7
Three Years ('57-'60)	5,192	26.9	4.0	4.6	4,401	29.7	3.6	4.6	791	21.9	4.9	4.6
Alamosa[c]												
First Year ('57-'58)	113	29.9	5.6	10.6	96	28.7	7.9	12.7	17	31.5	3.2	8.1
Second Year ('58-'59)	103	30.0	7.6	12.7	89	25.0	5.0	14.4	14	34.9	9.9	11.3
Third Year ('59-'60)	110	28.5	8.1	8.0	87	29.0	11.1	8.6	23	28.0	5.2	7.3
Two Years ('57-'59)	216	30.3	8.6	9.4	185	28.0	9.8	8.4	31	33.4	6.8	10.9
Three Years ('57-'60)	284	30.0	8.5	8.4	230	28.7	3.5	15.6	54	31.5	6.7	7.8
Arapahoe												
First Year ('57-'58)	1,820	29.0	5.7	5.0	1,496	31.1	5.5	4.9	324	25.0	6.3	5.0
Second Year ('58-'59)	2,638	26.0	3.2	3.7	2,031	27.0	3.2	3.7	607	23.9	3.4	3.5
Third Year ('59-'60)	2,237	27.7	4.0	5.4	1,605	27.2	4.0	5.9	632	29.2	4.1	4.0
Two Years ('57-'59)	4,458	27.7	4.7	3.7	3,527	28.7	4.5	3.8	931	25.3	5.0	3.6
Three Years ('57-'60)	6,291	27.4	4.6	3.9	4,728	28.2	4.5	4.0	1,563	25.6	4.7	3.6

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Archuleta												
First Year ('57-'58)	30	25.2%	3.1	6.6	24	20.4%	5.7	18.6	6	24.0%	2.2	6.0
Second Year ('58-'59)	38	18.0	4.7	20.7	27	24.2	2.1	18.1	11	16.9	4.4	21.5
Third Year ('59-'60)	20	20.9	1.2	5.1	16	22.1	2.0	9.2	4	20.6	1.0	4.9
Two Years ('57-'59)	68	19.8	2.6	16.2	51	26.7	3.4	15.1	17	18.5	1.8	17.0
Three Years ('57-'60)	64	19.9	0.4	14.2	43	25.6	2.5	17.5	21	18.9	--	--
Baca[a]												
First Year ('57-'58)	80	20.3	2.6	4.7	45	26.5	4.4	8.8	35	19.5	2.3	4.2
Second Year ('58-'59)	117	20.4	4.2	5.9	77	27.8	5.3	16.5	40	19.1	3.9	4.1
Third Year ('59-'60)	70	17.1	1.7	11.3	61	33.1	4.5	6.8	9	15.3	1.5	11.8
Two Years ('57-'59)	197	20.4	3.5	6.2	122	27.7	5.3	16.8	75	19.1	3.1	4.5
Three Years ('57-'60)	229	20.2	3.1	6.8	145	28.6	3.2	16.6	84	18.8	3.1	5.2
Bent												
First Year ('57-'58)	104	36.2	6.5	12.5	70	34.4	6.6	20.5	34	36.8	6.5	9.9
Second Year ('58-'59)	68	34.4	10.4	5.5	39	33.7	7.0	7.9	29	34.7	11.5	4.7
Third Year ('59-'60)	62	32.7	7.5	11.9	45	28.9	5.6	9.7	17	34.1	8.3	12.6
Two Years ('57-'59)	172	35.2	8.1	9.6	109	34.7	7.5	9.1	63	35.3	8.3	9.8
Three Years ('57-'60)	220	34.7	7.8	9.4	140	33.1	6.8	9.3	80	35.2	8.2	9.4
Boulder												
First Year ('57-'58)	1,325	29.3	4.9	6.7	1,162	30.1	4.6	6.9	163	26.8	6.1	6.0
Second Year ('58-'59)	1,552	28.8	4.4	4.2	1,265	30.7	3.7	3.9	287	23.4	5.8	5.3
Third Year ('59-'60)	1,275	26.7	4.5	4.7	1,010	29.5	4.0	3.8	265	20.0	5.6	7.1
Two Years ('57-'59)	2,877	29.0	4.6	5.2	2,427	30.4	4.1	4.8	450	24.9	6.0	6.4
Three Years ('57-'60)	3,567	28.4	4.4	5.1	2,852	30.2	4.1	4.5	715	23.4	4.9	6.9

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Chaffee												
First Year ('57-'58)	140	28.1%	4.3	10.8	123	28.0%	4.6	15.9	17	28.3%	3.9	2.3
Second Year ('58-'59)	159	25.4	5.0	9.7	137	27.5	7.1	10.3	22	22.7	2.2	8.9
Third Year ('59-'60)	108	25.5	4.6	10.0	85	26.7	4.6	4.4	23	23.9	4.6	17.7
Two Years ('57-'59)	299	26.3	4.9	9.9	260	27.8	6.1	10.6	39	24.1	3.2	9.0
Three Years ('57-'60)	336	26.3	4.3	9.0	274	27.8	5.3	8.0	62	24.3	3.0	10.4
Cheyenne												
First Year ('57-'58)	20	26.1	4.4	7.3	10	45.3	3.1	15.5	10	24.4	3.4	7.7
Second Year ('58-'59)	55	24.1	3.9	6.6	24	35.1	10.9	18.0	31	22.9	2.9	6.4
Third Year ('59-'60)	21	22.9	8.1	5.1	15	49.6	17.2	20.6	6	21.1	7.6	3.9
Two Years ('57-'59)	75	24.6	4.9	8.7	34	36.6	9.6	14.7	41	23.3	4.1	8.6
Three Years ('57-'60)	81	24.8	5.6	8.1	34	42.5	14.1	6.2	47	23.3	4.8	8.4
Clear Creek												
First Year ('57-'58)	108	18.9	3.5	7.5	64	18.9	3.9	7.6	44	18.9	3.1	7.4
Second Year ('58-'59)	105	20.3	4.5	10.0	60	20.9	3.5	11.2	45	19.7	5.3	9.0
Third Year ('59-'60)	149	21.0	4.9	9.2	47	22.0	7.0	13.5	102	20.2	3.2	5.5
Two Years ('57-'59)	213	19.2	3.9	9.2	124	19.5	3.9	10.4	89	19.0	4.0	7.9
Three Years ('57-'60)	324	19.5	3.6	9.5	133	19.3	4.1	11.8	191	19.7	3.2	7.3
Conejos												
First Year ('57-'58)	77	37.1	10.5	29.0	46	34.9	12.8	23.0	31	37.7	9.8	30.7
Second Year ('58-'59)	69	30.1	8.2	12.7	38	31.5	6.5	26.6	31	29.8	8.3	10.9
Third Year ('59-'60)	41	37.5	15.5	19.2	28	28.8	3.6	20.8	13	40.7	19.5	17.8
Two Years ('57-'59)	146	32.6	7.9	17.5	84	34.3	11.0	18.3	62	32.2	7.2	17.3
Three Years ('57-'60)	161	33.5	9.7	18.8	86	33.0	8.8	18.5	75	33.6	9.9	18.9

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio
Costilla												
First Year ('57-'58)	31	39.5%	7.7	19.5	15	48.1%	6.7	13.7	16	37.7%	7.9	20.7
Second Year ('58-'59)	44	35.8	7.4	39.3	12	60.3	17.2	20.2	32	32.4	4.7	42.4
Third Year ('59-'60)	21	44.7	5.4	36.6	11	44.2	--	--	10	44.8	5.3	27.0
Two Years ('57-'59)	75	36.2	7.0	25.7	27	53.1	13.7	17.6	48	33.4	5.1	27.8
Three Years ('57-'60)	86	37.2	7.3	29.6	28	47.3	7.5	27.7	58	35.4	6.5	30.6
Crowley												
First Year ('57-'58)	39	26.6	8.6	8.1	26	31.8	12.1	7.0	13	25.3	7.6	8.6
Second Year ('58-'59)	54	28.8	7.3	12.9	37	33.2	6.8	10.8	17	27.5	7.3	13.6
Third Year ('59-'60)	44	34.4	7.7	9.3	27	30.4	4.1	15.2	17	35.9	9.1	7.1
Two Years ('57-'59)	93	28.6	6.8	16.0	63	34.6	9.6	8.8	30	27.0	5.9	17.9
Three Years ('57-'60)	132	30.4	6.4	16.9	85	33.8	8.7	12.9	47	29.5	5.8	18.0
Custer												
First Year ('57-'58)	61	27.1	9.2	17.8	40	28.9	10.5	28.7	21	26.9	9.1	16.8
Second Year ('58-'59)	47	20.6	4.7	4.9	28	22.4	3.0	10.5	19	20.4	4.9	4.3
Third Year ('59-'60)	19	29.0	11.3	7.5	10	26.9	2.6	5.1	9	29.3	12.2	7.6
Two Years ('57-'59)	108	22.5	6.2	11.8	68	24.7	6.0	13.5	40	22.2	6.2	11.7
Three Years ('57-'60)	95	23.8	7.6	12.1	46	23.2	5.2	11.3	49	23.9	8.0	12.2
Delta												
First Year ('57-'58)	284	25.7	5.2	10.9	168	28.1	4.4	13.4	116	21.5	3.3	11.6
Second Year ('58-'59)	293	26.3	6.4	6.8	182	28.0	5.2	7.0	111	24.9	7.4	6.7
Third Year ('59-'60)	181	23.2	5.9	7.3	97	25.8	5.6	8.9	84	21.4	6.1	6.1
Two Years ('57-'59)	577	26.1	5.7	8.3	350	28.3	4.8	9.4	227	24.3	6.4	7.6
Three Years ('57-'60)	691	25.3	5.7	8.3	380	27.6	5.0	9.1	311	23.6	6.2	7.7

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Denver												
First Year ('57-'58)	5,413	32.2%	5.3	5.7	5,413	32.2%	5.3	5.7	--	--	--	--
Second Year ('58-'59)	7,945	32.3	4.9	4.7	7,945	32.3	4.9	4.7	--	--	--	--
Third Year ('59-'60)	7,396	32.0	4.9	5.2	7,396	32.0	4.9	5.2	--	--	--	--
Two Years ('57-'59)	13,358	32.3	5.0	5.0	13,358	32.3	5.0	5.0	--	--	--	--
Three Years ('57-'60)	20,100	32.3	5.0	5.1	20,100	32.3	5.0	5.1	--	--	--	--
Dolores												
First Year ('57-'58)	30	23.7	4.3	10.3	19	34.0	7.7	6.4	11	21.6	3.4	11.3
Second Year ('58-'59)	51	22.8	5.9	6.3	35	23.7	3.5	7.6	16	22.6	6.4	6.0
Third Year ('59-'60)	14	32.9	13.4	27.5	11	27.7	3.6	9.7	3	35.0	19.0	42.9
Two Years ('57-'59)	81	24.1	5.6	9.0	54	31.2	5.5	4.6	27	22.5	5.6	10.0
Three Years ('57-'60)	82	24.7	6.9	8.3	52	31.8	8.0	3.5	30	23.1	6.6	9.4
Douglas												
First Year ('57-'58)	81	16.3	2.9	7.5	42	22.6	3.8	12.2	39	14.9	2.5	6.9
Second Year ('58-'59)	95	20.5	4.7	5.4	38	28.1	3.1	6.2	57	18.8	4.7	5.6
Third Year ('59-'60)	104	24.8	2.9	4.1	22	25.1	2.4	4.3	82	24.7	3.6	3.7
Two Years ('57-'59)	176	18.3	3.4	7.2	80	25.9	3.7	9.0	96	16.7	3.1	7.0
Three Years ('57-'60)	259	18.3	3.5	7.0	81	26.3	3.1	8.8	178	16.8	3.3	6.8
Eagle												
First Year ('57-'58)	43	29.3	5.8	8.8	32	35.4	6.3	19.5	11	27.5	5.5	6.2
Second Year ('58-'59)	33	21.9	4.2	4.4	19	42.0	10.4	25.0	14	18.5	2.9	1.6
Third Year ('59-'60)	27	29.9	2.2	15.3	18	27.8	2.1	11.1	9	30.7	2.4	16.4
Two Years ('57-'59)	76	24.4	6.0	8.2	51	36.8	8.7	24.7	25	21.6	5.2	5.1
Three Years ('57-'60)	95	24.8	6.5	10.3	61	36.3	7.5	20.5	34	22.2	6.1	8.4

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Elbert												
First Year ('57-'58)	46	21.2%	3.5	6.9	29	41.1%	12.3	15.8	17	20.0	2.8	6.9
Second Year ('58-'59)	67	18.6	3.5	8.4	25	21.1	6.5	12.2	42	18.3	3.1	8.2
Third Year ('59-'60)	45	20.7	2.5	8.6	28	30.9	9.3	8.3	17	20.0	2.0	8.6
Two Years ('57-'59)	113	19.6	3.4	9.4	54	31.9	12.4	36.9	59	18.8	2.8	8.0
Three Years ('57-'60)	146	19.8	3.4	10.1	70	32.1	12.6	30.4	76	19.0	2.8	8.9
El Paso												
First Year ('57-'58)	1,967	23.0	4.3	4.9	1,904	23.1	3.4	4.6	63	22.1	8.5	6.4
Second Year ('58-'59)	2,718	22.1	3.8	4.1	2,581	22.8	3.6	4.0	137	19.0	4.3	4.3
Third Year ('59-'60)	2,634	23.5	5.0	4.4	2,533	24.4	4.5	4.2	101	19.6	6.6	5.2
Two Years ('57-'59)	4,685	22.4	3.9	4.6	4,485	23.0	3.6	4.3	200	19.8	5.2	5.4
Three Years ('57-'60)	6,998	22.9	4.2	4.4	6,697	23.6	3.9	4.2	301	20.0	5.9	5.0
Fremont												
First Year ('57-'58)	293	23.8	5.1	8.7	270	24.8	5.9	5.8	23	22.5	4.2	12.8
Second Year ('58-'59)	427	22.5	3.7	5.7	359	22.5	4.2	4.6	68	22.5	2.8	7.3
Third Year ('59-'60)	290	22.6	4.4	8.8	260	20.9	3.6	8.5	30	25.6	5.7	9.4
Two Years ('57-'59)	720	22.9	4.3	5.9	629	23.4	5.1	4.5	91	22.2	3.2	7.8
Three Years ('57-'60)	880	22.7	3.9	7.4	759	22.4	3.9	6.0	121	23.2	3.8	9.3
Garfield												
First Year ('57-'58)	159	26.9	6.2	13.5	117	24.2	3.7	18.0	42	29.4	8.4	9.3
Second Year ('58-'59)	204	22.0	4.3	9.0	151	23.3	5.8	10.5	53	21.1	3.2	7.9
Third Year ('59-'60)	139	30.0	4.3	16.8	103	25.5	3.6	28.4	36	34.5	5.0	5.1
Two Years ('57-'59)	363	24.0	4.7	10.2	268	23.7	4.8	10.9	95	24.3	4.6	9.5
Three Years ('57-'60)	424	26.0	5.6	11.9	293	25.6	5.6	15.3	131	26.3	5.7	9.4

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Gilpin												
First Year ('57-'58)	41	14.6%	3.3	5.9	20	20.8%	6.2	3.8	21	13.6%	2.7	6.4
Second Year ('58-'59)	71	17.0	4.9	8.4	15	15.1	2.8	9.3	56	17.5	5.4	8.1
Third Year ('59-'60)	63	16.0	2.2	7.5	15	20.8	3.3	10.8	48	15.2	2.0	6.8
Two Years ('57-'59)	112	17.1	5.2	6.5	35	19.3	5.5	5.5	77	16.6	5.0	6.8
Three Years ('57-'60)	159	17.0	4.1	6.6	34	20.4	3.1	13.1	125	16.4	4.3	5.5
Grand												
First Year ('57-'58)	106	22.8	4.2	7.4	71	25.3	5.0	12.1	35	20.9	3.5	4.2
Second Year ('58-'59)	113	22.2	3.8	8.6	66	25.5	5.0	12.3	47	19.8	2.8	6.3
Third Year ('59-'60)	92	27.7	4.8	7.5	40	27.7	5.1	9.3	52	27.7	4.6	5.9
Two Years ('57-'59)	219	22.4	3.7	7.7	137	25.3	4.6	11.1	82	20.4	3.1	5.4
Three Years ('57-'60)	258	23.5	4.0	8.1	124	26.7	5.1	10.0	134	21.2	3.2	6.9
Gunnison												
First Year ('57-'58)	106	23.8	3.2	11.9	91	25.5	4.8	8.3	15	22.9	2.3	13.8
Second Year ('58-'59)	113	17.5	5.4	8.0	95	18.9	3.8	7.9	18	16.8	5.6	8.4
Third Year ('59-'60)	74	18.5	4.4	7.5	63	27.5	6.1	6.2	11	15.6	3.7	8.1
Two Years ('57-'59)	219	20.5	2.5	12.7	186	23.7	4.9	7.0	33	19.0	1.3	15.3
Three Years ('57-'60)	232	19.9	4.1	11.4	188	25.7	6.1	7.9	44	17.7	3.3	12.8
Hinsdale												
First Year ('57-'58)	10	25.5	7.2	9.3	9	e	--	--	1	e	--	--
Second Year ('58-'59)	13	22.0	2.8	10.8	12	e	--	--	1	e	--	--
Third Year ('59-'60)	10	21.3	2.3	9.7	9	e	--	--	1	e	--	--
Two Years ('57-'59)	23	23.8	4.9	14.2	21	e	--	--	2	e	--	--
Three Years ('57-'60)	22	22.2	3.2	9.3	19	e	--	--	3	e	--	--

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio
Huerfano												
First Year ('57-'58)	114	19.9%	3.8	16.6	79	26.7%	6.7	15.5	35	15.7	2.1	17.2
Second Year ('58-'59)	98	26.0	5.3	9.1	62	37.9	9.0	10.6	36	19.4	3.1	8.7
Third Year ('59-'60)	78	17.7	2.2	8.0	53	32.8	7.6	11.4	25	11.9	0.1	6.8
Two Years ('57-'59)	212	21.3	3.9	17.2	141	28.0	6.2	20.9	71	16.9	2.4	14.9
Three Years ('57-'60)	269	20.9	4.4	15.0	173	29.5	7.5	16.9	96	16.0	2.7	13.9
Jackson[f]												
First Year ('57-'58)	27	14.1	2.5	0.4	21	28.0	6.9	6.8	6	12.5	1.6	0.5
Second Year ('58-'59)	28	18.7	3.6	8.8	19	25.9	2.3	4.0	9	12.2	1.8	14.0
Third Year ('59-'60)	13	e	--	--	12	29.1	3.1	13.7	1	e	--	--
Two Years ('57-'59)	55	18.5	5.9	8.1	40	30.4	9.0	1.9	15	16.8	5.2	9.2
Three Years ('57-'60)	51	18.6	5.5	9.3	35	32.7	8.1	8.5	16	16.8	5.2	9.4
Jefferson												
First Year ('57-'58)	2,425	25.3	3.8	5.1	1,796	25.5	3.5	4.6	629	24.4	5.9	8.2
Second Year ('58-'59)	3,292	26.3	4.1	5.1	2,415	27.7	4.0	4.5	877	19.8	4.1	8.1
Third Year ('59-'60)	2,410	25.3	4.0	4.3	1,747	26.6	3.6	3.8	663	19.4	5.8	6.3
Two Years ('57-'59)	5,717	25.7	3.7	5.2	4,211	26.6	3.6	4.7	1,506	21.3	4.6	7.6
Three Years ('57-'60)	7,389	25.9	4.1	4.8	5,220	26.9	3.8	4.4	2,169	20.7	4.9	7.3
Kiowa												
First Year ('57-'58)	50	28.5	7.5	6.5	18	27.0	1.6	25.4	32	28.9	8.3	4.5
Second Year ('58-'59)	67	23.7	5.3	6.1	25	31.6	3.6	10.5	42	22.3	5.0	6.1
Third Year ('59-'60)	23	22.3	8.1	1.5	17	28.7	4.7	12.5	6	19.6	6.4	2.4
Two Years ('57-'59)	117	25.5	5.8	7.9	43	29.1	3.4	12.9	74	24.7	5.9	7.4
Three Years ('57-'60)	129	25.2	5.7	7.4	49	28.9	3.0	6.7	80	24.5	5.9	7.7

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Kit Carson												
First Year ('57-'58)	101	24.1%	5.7	7.5	51	35.8%	7.9	17.8	50	21.5	5.0	5.9
Second Year ('58-'59)	145	20.3	4.0	4.1	100	31.6	7.3	7.7	45	17.9	2.9	4.1
Third Year ('59-'60)	75	18.5	3.5	9.0	66	34.0	12.8	11.1	9	15.5	1.2	9.5
Two Years ('57-'59)	246	22.4	5.0	5.6	151	35.9	9.3	11.3	95	19.7	3.9	5.0
Three Years ('57-'60)	276	21.3	4.4	6.6	172	31.3	6.8	15.3	104	19.1	3.6	5.6
Lake[g]												
First Year ('57-'58)	75	21.6	6.9	12.1	74	e	--	--	1	e	--	--
Second Year ('58-'59)	58	20.6	9.1	6.6	52	e	--	--	6	e	--	--
Third Year ('59-'60)	62	24.1	8.4	4.7	54	e	--	--	8	e	--	--
Two Years ('57-'59)	133	21.0	7.5	7.7	126	e	--	--	7	e	--	--
Three Years ('57-'60)	178	21.6	7.3	5.9	163	e	--	--	15	e	--	--
La Plata												
First Year ('57-'58)	314	23.9	4.9	5.7	245	23.5	3.5	4.1	69	24.3	6.2	7.5
Second Year ('58-'59)	315	23.4	5.5	8.3	229	25.1	3.6	10.3	86	21.8	7.3	6.6
Third Year ('59-'60)	240	20.4	4.5	8.5	170	22.3	4.5	6.9	70	18.7	4.3	10.0
Two Years ('57-'59)	629	23.5	5.4	6.4	474	24.3	3.6	6.1	155	22.7	7.2	6.7
Three Years ('57-'60)	727	22.7	5.1	6.9	502	24.0	3.3	5.1	225	21.5	6.6	8.6
Larimer												
First Year ('57-'58)	1,171	28.7	5.8	6.1	962	28.7	5.2	4.7	209	28.8	7.3	8.8
Second Year ('58-'59)	1,355	27.3	6.2	6.5	1,056	28.0	6.2	6.0	299	25.9	6.0	7.5
Third Year ('59-'60)	1,188	26.8	6.5	8.1	956	27.5	4.3	8.1	232	25.6	10.6	8.0
Two Years ('57-'59)	2,526	27.9	6.1	6.7	2,018	28.5	6.0	5.5	508	26.9	6.6	8.8
Three Years ('57-'60)	3,391	27.6	5.9	6.9	2,651	28.1	5.5	6.1	740	26.6	6.7	8.5

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Las Animas												
First Year ('57-'58)	155	26.0%	5.3	10.4	126	35.9%	5.2	14.5	29	21.3%	5.9	7.8
Second Year ('58-'59)	166	23.9	4.4	20.6	127	32.2	4.9	20.3	39	19.8	4.0	21.0
Third Year ('59-'60)	84	17.3	2.8	48.7	68	30.8	9.6	19.7	16	13.0	0.6	57.9
Two Years ('57-'59)	321	24.3	5.6	19.5	253	33.1	5.4	20.3	68	20.1	5.6	19.3
Three Years ('57-'60)	385	23.7	5.6	20.4	301	32.3	5.5	21.9	84	19.7	5.5	19.9
Lincoln												
First Year ('57-'58)	54	24.1	4.8	10.4	25	23.1	3.2	10.7	29	24.4	5.2	10.2
Second Year ('58-'59)	99	21.6	4.3	8.7	49	26.7	4.4	33.6	50	20.6	4.4	3.3
Third Year ('59-'60)	58	20.4	5.1	8.7	49	24.4	5.6	20.8	9	19.5	4.9	6.2
Two Years ('57-'59)	153	22.9	5.4	7.1	74	26.9	5.7	22.9	79	22.0	5.3	3.5
Three Years ('57-'60)	184	22.7	5.5	6.2	96	25.9	5.8	16.7	88	22.0	5.5	3.8
Logan												
First Year ('57-'58)	265	25.2	4.5	8.2	227	28.1	4.1	8.0	38	23.1	4.7	8.4
Second Year ('58-'59)	387	24.1	3.9	5.9	330	29.3	3.1	6.3	57	20.9	4.3	5.6
Third Year ('59-'60)	262	23.9	2.8	7.9	229	30.4	4.5	13.2	33	20.2	1.8	5.1
Two Years ('57-'59)	652	24.7	4.7	6.3	557	28.9	4.6	6.3	95	22.0	4.7	6.2
Three Years ('57-'60)	867	24.7	4.7	6.9	739	29.4	4.6	7.4	128	21.8	4.9	6.5
Mesa												
First Year ('57-'58)	1,025	26.2	3.9	8.7	869	26.0	2.9	10.0	156	26.5	5.4	6.8
Second Year ('58-'59)	1,142	27.1	4.2	5.9	884	28.9	3.8	5.5	258	24.7	4.5	6.4
Third Year ('59-'60)	803	27.2	3.8	4.5	563	29.1	3.1	3.6	240	24.8	4.7	5.7
Two Years ('57-'59)	2,167	27.0	4.5	6.4	1,753	27.9	4.0	6.8	414	25.7	5.2	6.1
Three Years ('57-'60)	2,720	27.0	4.3	5.8	2,066	28.0	3.7	5.6	654	25.6	4.9	6.1

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Mineral												
First Year ('57-'58)	5	40.6%	13.8	8.4	4	e	--	--	1	e	--	--
Second Year ('58-'59)	18	35.7	13.2	36.8	16	e	--	--	2	e	--	--
Third Year ('59-'60)	8	25.9	5.9	56.6	4	e	--	--	4	e	--	--
Two Years ('57-'59)	23	36.5	12.3	21.4	20	e	--	--	3	e	--	--
Three Years ('57-'60)	31	31.8	8.0	41.3	24	e	--	--	7	e	--	--
Moffat												
First Year ('57-'58)	96	26.6	5.2	7.2	84	26.6	7.1	8.9	12	26.5	2.2	4.7
Second Year ('58-'59)	143	25.7	6.8	12.2	104	28.6	6.3	12.7	39	23.1	7.1	11.9
Third Year ('59-'60)	66	23.6	5.7	9.1	59	24.4	4.2	7.7	7	22.9	8.6	10.8
Two Years ('57-'59)	239	25.8	6.0	8.6	188	27.4	5.4	7.6	51	24.3	6.7	9.6
Three Years ('57-'60)	224	24.9	5.7	8.2	166	26.7	4.8	5.7	58	23.1	6.3	10.5
Montezuma												
First Year ('57-'58)	174	21.2	5.3	7.4	134	23.5	6.6	9.7	40	19.6	4.4	5.9
Second Year ('58-'59)	136	22.0	6.6	7.6	87	26.8	8.2	9.1	49	19.2	5.7	6.7
Third Year ('59-'60)	102	21.7	5.7	4.7	75	30.3	9.2	4.2	27	17.7	4.1	4.9
Two Years ('57-'59)	310	21.5	5.9	7.4	221	25.2	7.5	8.8	89	19.3	5.0	6.4
Three Years ('57-'60)	362	21.8	6.0	6.4	246	27.0	8.3	6.6	116	18.9	4.7	6.3
Montrose												
First Year ('57-'58)	224	24.9	6.1	7.7	169	27.0	6.6	8.7	55	23.2	5.5	7.1
Second Year ('58-'59)	234	25.4	5.6	9.0	170	28.0	7.1	10.3	64	23.5	4.5	8.1
Third Year ('59-'60)	163	24.0	5.5	9.5	108	27.8	6.7	16.6	55	21.5	4.7	4.9
Two Years ('57-'59)	458	25.2	6.0	8.2	339	27.5	6.7	9.2	119	23.5	5.4	7.3
Three Years ('57-'60)	520	24.8	5.4	7.5	346	27.8	6.6	9.0	174	22.7	4.5	6.6

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Morgan												
First Year ('57-'58)	291	27.6%	5.2	8.0	215	31.3%	4.6	8.4	76	25.3%	5.7	7.6
Second Year ('58-'59)	363	27.3	6.3	7.5	292	29.3	6.1	5.7	71	25.9	6.3	8.7
Third Year ('59-'60)	297	25.7	4.2	8.1	252	31.3	7.0	6.0	45	22.5	2.6	9.3
Two Years ('57-'59)	654	27.5	5.8	7.3	507	30.2	5.6	6.9	147	25.6	5.8	7.7
Three Years ('57-'60)	863	27.5	6.0	7.3	671	31.2	7.0	6.5	192	25.2	5.5	7.7
Otero												
First Year ('57-'58)	311	33.8	6.8	10.3	259	35.7	8.0	13.3	52	31.5	5.4	6.5
Second Year ('58-'59)	441	32.7	8.1	10.2	384	35.7	8.4	8.5	57	29.1	7.6	12.2
Third Year ('59-'60)	397	31.9	6.0	9.7	339	32.2	6.3	7.9	58	31.5	5.6	12.2
Two Years ('57-'59)	752	33.0	7.7	9.8	643	35.4	7.7	10.1	109	30.0	7.5	9.5
Three Years ('57-'60)	1,077	32.2	6.3	11.0	910	33.7	5.9	12.1	167	30.2	6.7	9.7
Ouray												
First Year ('57-'58)	26	22.4	7.8	9.5	19	e	--	--	7	e	--	--
Second Year ('58-'59)	46	28.6	6.3	14.4	20	e	--	--	26	e	--	--
Third Year ('59-'60)	24	21.4	5.4	12.6	16	e	--	--	8	e	--	--
Two Years ('57-'59)	72	25.6	5.1	13.2	39	e	--	--	33	e	--	--
Three Years ('57-'60)	88	23.8	3.5	12.2	47	e	--	--	41	e	--	--
Park												
First Year ('57-'58)	86	25.2	8.1	9.1	49	27.5	9.1	30.3	37	24.4	7.7	2.2
Second Year ('58-'59)	99	20.3	6.0	9.4	44	24.8	5.5	7.4	55	18.9	5.7	10.2
Third Year ('59-'60)	71	28.0	8.3	3.9	29	29.7	6.7	15.5	42	27.6	8.5	1.8
Two Years ('57-'59)	185	23.0	6.7	10.4	93	25.7	6.0	27.0	92	22.0	6.9	4.9
Three Years ('57-'60)	212	23.6	7.1	7.5	78	29.8	4.9	19.5	134	22.5	7.6	5.3

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio
Phillips[h]												
First Year ('57-'58)	76	20.3%	2.8	5.6	49	27.3%	5.8	17.8	27	19.1%	2.2	3.4
Second Year ('58-'59)	84	20.3	3.3	4.2	64	30.0	6.6	14.7	20	18.8	2.8	2.5
Third Year ('59-'60)	49	21.6	3.4	7.8	39	25.1	3.9	10.2	10	20.8	3.2	7.4
Two Years ('57-'59)	160	20.3	2.9	4.1	113	29.2	6.3	7.8	47	18.8	2.4	3.5
Three Years ('57-'60)	189	20.6	2.9	4.6	132	28.1	4.0	8.7	57	19.3	2.7	3.9
Pitkin												
First Year ('57-'58)	57	20.7	1.6	4.8	48	19.5	1.7	5.8	9	21.8	1.4	3.9
Second Year ('58-'59)	119	17.4	3.3	6.9	86	18.2	3.8	4.2	33	16.7	2.9	9.1
Third Year ('59-'60)	69	18.2	3.2	2.4	40	19.7	5.2	2.1	29	17.1	1.4	1.9
Two Years ('57-'59)	176	18.3	3.1	6.7	134	18.8	3.2	5.7	42	17.9	3.1	7.6
Three Years ('57-'60)	197	18.5	3.7	5.5	126	19.7	4.5	4.3	71	17.6	3.1	6.4
Prowers												
First Year ('57-'58)	131	30.6	6.3	8.6	111	31.1	4.9	10.5	20	30.4	7.3	7.4
Second Year ('58-'59)	217	27.9	8.1	10.4	153	28.6	4.2	11.7	64	27.4	10.5	9.6
Third Year ('59-'60)	165	30.4	4.6	4.7	152	31.7	4.6	5.5	13	29.5	4.5	4.3
Two Years ('57-'59)	348	28.6	8.1	9.0	264	29.5	4.4	10.8	84	28.0	10.4	7.9
Three Years ('57-'60)	464	29.5	5.9	8.7	367	31.0	4.2	9.2	97	28.6	7.0	8.4
Pueblo												
First Year ('57-'58)	1,627	24.3	4.7	4.4	1,567	25.0	4.7	4.2	60	23.1	4.7	4.6
Second Year ('58-'59)	1,786	23.2	4.1	6.6	1,653	25.4	4.0	5.5	133	19.6	4.1	8.4
Third Year ('59-'60)	1,514	23.3	5.0	5.4	1,328	25.6	5.3	4.7	186	19.7	4.4	6.5
Two Years ('57-'59)	3,413	23.5	4.5	5.9	3,220	25.3	4.6	4.9	193	20.6	4.6	7.5
Three Years ('57-'60)	4,458	23.4	4.5	5.9	4,079	25.5	4.9	4.8	379	20.2	4.1	7.6

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Rio Blanco												
First Year ('57-'58)	70	32.9%	4.1	6.5	61	34.5%	5.6	10.1	9	31.9%	3.1	4.3
Second Year ('58-'59)	57	20.6	5.1	14.0	46	23.5	2.7	9.0	11	19.1	5.2	16.2
Third Year ('59-'60)	35	25.8	1.1	9.5	32	28.4	3.7	6.9	3	24.4	--	--
Two Years ('57-'59)	127	24.6	7.9	15.0	107	31.9	8.5	10.0	20	21.5	7.7	17.1
Three Years ('57-'60)	131	24.3	7.6	16.0	108	31.3	7.9	11.9	23	21.5	7.7	17.5
Rio Grande												
First Year ('57-'58)	120	33.8	8.5	13.4	95	32.1	5.7	10.2	25	34.8	10.1	15.0
Second Year ('58-'59)	146	32.7	9.8	7.9	110	33.5	3.6	5.2	36	32.4	12.6	9.1
Third Year ('59-'60)	84	33.0	4.5	10.0	64	31.0	3.8	9.7	20	34.0	4.9	10.3
Two Years ('57-'59)	266	33.1	10.5	10.0	205	32.6	6.0	7.7	61	33.3	12.6	11.1
Three Years ('57-'60)	320	33.0	9.4	9.7	239	32.1	5.4	7.5	81	33.5	11.4	10.7
Routt												
First Year ('57-'58)	135	27.8	4.9	11.1	110	40.2	10.3	18.8	25	24.6	3.6	8.9
Second Year ('58-'59)	131	30.6	2.1	19.6	94	35.8	3.9	54.5	37	28.9	1.5	7.9
Third Year ('59-'60)	114	27.9	3.5	16.6	85	34.8	5.8	15.7	29	25.9	2.8	16.8
Two Years ('57-'59)	266	29.8	5.5	9.3	204	38.1	7.5	17.4	62	27.3	4.9	6.9
Three Years ('57-'60)	350	29.3	4.6	13.5	259	37.2	5.9	16.7	91	27.0	4.2	12.6
Saguache												
First Year ('57-'58)	34	40.9	7.4	12.6	24	31.9	6.3	28.1	10	44.1	7.9	7.2
Second Year ('58-'59)	38	42.9	5.3	15.8	29	36.0	9.6	24.0	9	45.1	4.2	13.2
Third Year ('59-'60)	26	32.9	5.6	15.4	19	31.9	4.4	25.4	7	33.2	6.0	12.9
Two Years ('57-'59)	72	40.5	6.0	14.2	53	33.7	7.5	22.2	19	42.7	5.5	11.5
Three Years ('57-'60)	89	38.0	7.9	14.8	63	34.1	6.6	22.9	26	39.1	8.2	12.4

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
San Juan												
First Year ('57-'58)	15	38.7%	12.1	18.8	14	e	--	--	1	e	--	--
Second Year ('58-'59)	10	37.7	8.7	7.3	10	e	--	--	0	e	--	--
Third Year ('59-'60)	24	34.9	15.6	0.7	24	e	--	--	0	e	--	--
Two Years ('57-'59)	25	38.1	10.0	16.6	24	e	--	--	1	e	--	--
Three Years ('57-'60)	48	36.5	13.2	12.5	47	e	--	--	1	e	--	--
San Miguel												
First Year ('57-'58)	31	40.0	12.6	23.9	24	46.5	17.7	24.5	7	38.5	11.4	23.7
Second Year ('58-'59)	30	24.6	5.6	26.1	19	42.1	7.9	19.3	11	22.0	5.2	27.1
Third Year ('59-'60)	30	34.8	3.7	11.2	24	38.3	4.9	28.2	6	33.9	3.4	7.1
Two Years ('57-'59)	61	30.2	7.4	24.6	43	41.5	9.3	25.7	18	28.0	7.0	24.5
Three Years ('57-'60)	87	30.0	4.7	21.8	63	38.9	7.3	30.3	24	28.2	4.2	19.9
Sedgwick[1]												
First Year ('57-'58)	39	19.7	2.9	3.5	22	29.3	2.4	9.8	17	18.4	2.7	3.1
Second Year ('58-'59)	61	21.3	8.5	4.0	52	24.9	3.3	5.5	9	20.7	9.4	3.8
Third Year ('57-'60)	49	23.8	8.1	8.5	44	33.7	6.9	14.3	5	20.9	10.0	4.6
Two Years ('57-'59)	100	20.2	4.2	3.3	74	26.9	3.8	6.9	26	19.2	4.3	2.7
Three Years ('57-'60)	141	22.3	4.0	4.9	110	33.5	2.8	12.6	31	19.2	4.2	2.9
Summit												
First Year ('57-'58)	37	21.6	8.6	9.9	29	28.8	10.0	31.3	8	20.6	8.3	7.2
Second Year ('58-'59)	44	23.2	6.8	19.2	29	28.7	6.4	17.0	15	22.4	6.5	19.7
Third Year ('59-'60)	25	25.9	2.9	21.1	16	25.1	5.0	39.4	9	26.1	2.8	19.2
Two Years ('57-'59)	81	24.2	9.9	17.5	58	29.5	6.3	24.0	23	23.4	9.8	17.3
Three Years ('57-'60)	83	24.5	9.0	16.8	51	28.3	5.7	29.7	32	23.9	9.0	16.0

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
			Range in Pct. Pts.[b]				Range in Pct. Pts.[b]				Range in Pct. Pts.[b]	
	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio	No. of Certificates	Sales Ratio	Below Aver. Ratio	Above Aver. Ratio
Teller												
First Year ('57-'58)	146	18.4%	5.2	9.2	111	22.8%	4.1	19.8	35	16.3	5.6	4.5
Second Year ('58-'59)	115	15.6	2.8	5.3	93	22.1	4.2	9.1	22	13.1	2.4	3.7
Third Year ('59-'60)	91	20.2	4.7	18.6	51	19.8	4.3	25.0	40	20.5	5.0	14.6
Two Years ('57-'59)	261	17.7	5.4	6.5	204	22.5	4.9	13.4	57	15.5	5.7	3.2
Three Years ('57-'60)	304	17.8	4.6	7.9	207	22.0	4.6	16.0	97	16.0	4.6	4.5
Washington												
First Year ('57-'58)	68	23.3	5.9	5.9	38	29.8	9.5	0.1	30	22.6	5.4	6.5
Second Year ('58-'59)	106	21.1	3.6	4.4	50	26.2	6.3	9.7	56	20.6	3.2	4.4
Third Year ('59-'60)	59	18.0	3.8	4.3	48	25.4	4.6	7.4	11	17.4	3.4	4.5
Two Years ('57-'60)	174	21.9	3.5	5.5	88	30.6	3.7	11.3	86	21.1	3.5	5.0
Three Years ('57-'60)	207	21.3	3.3	6.1	110	30.1	3.0	12.8	97	20.6	3.3	5.6
Weld												
First Year ('57-'58)	877	27.7	6.1	9.1	742	30.0	5.6	8.8	135	26.4	6.2	9.4
Second Year ('58-'59)	1,080	24.7	5.9	6.9	881	27.8	4.5	6.0	199	23.1	6.6	7.4
Third Year ('59-'60)	1,008	25.7	6.5	6.3	866	29.0	4.9	8.2	142	24.1	7.3	5.3
Two Years ('57-'59)	1,957	25.8	5.4	7.1	1,623	28.6	4.8	6.7	334	24.3	5.7	7.4
Three Years ('57-'60)	2,759	25.8	5.8	7.2	2,283	29.0	5.0	8.3	476	24.2	6.2	6.6
Yuma												
First Year ('57-'58)	104	18.2	2.7	7.5	61	25.1	4.4	17.6	43	16.8	2.3	5.6
Second Year ('58-'59)	126	19.3	4.2	10.4	81	25.3	4.1	33.7	45	18.0	4.2	5.5
Third Year ('59-'60)	78	20.4	4.0	8.2	56	27.5	3.7	6.0	22	18.9	4.0	8.8
Two Years ('57-'59)	230	18.5	3.6	7.7	142	24.7	4.5	16.8	88	17.3	3.5	5.7
Three Years ('57-'60)	281	18.9	3.7	6.5	171	26.9	5.7	11.7	110	17.4	3.3	5.5

TABLE I
(continued)

County and Year	Total County				Total Urban				Total Rural			
	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio	No. of Certificates	Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio
Total												
First Year ('57-'58)	24,670	27.9%	5.1	6.4	21,346	29.5	4.9	6.1	3,324	24.3	5.5	7.0
Second Year ('58-'59)	32,002	27.0	4.7	6.0	27,159	29.3	4.5	5.4	4,843	22.1	5.0	7.2
Third Year ('59-'60)	27,019	26.9	4.7	6.8	22,880	29.3	4.6	5.8	4,139	22.0	4.9	8.7
Two Years ('57-'59)	56,672	27.4	4.9	6.1	48,505	29.4	4.7	5.5	8,167	22.9	5.1	7.4
Three Years ('57-'60)	77,456	27.3	4.8	6.1	65,150	29.5	4.6	5.6	12,306	22.8	5.1	7.5

a. Vacant urban land is included in the tabulations for the first and second years of the study and the first two years combined; it is excluded from the tabulations for the third year and for the three years combined. This means, for example, that the total number of certificates shown for the three years combined is not in agreement with the sum of the numbers shown for individual years.
b. Average range above and below the average sales ratio within which the middle half of the sales ratios fall when arranged from low to high.
c. Exclusive of commercial and industrial properties in 1958-1959, for which there were no conveyances in that year.
d. Exclusive of commercial properties in 1957-1958, for which there were no conveyances in that year.
e. Insufficient data for determination of the sales ratio.
f. Exclusive of agricultural properties with improvements in 1958-1959, for which there was only one conveyance in that year, and of all rural properties in 1959-1960, for which there was only one conveyance in that year.
g. Exclusive of industrial properties in 1957-1958 and in 1958-1959, for which there were no conveyances in either of those two years.
h. Exclusive of industrial properties, for which there was only one conveyance in the entire three-year period.
i. Exclusive of commercial and industrial properties in 1957-1958 and in 1958-1959, but including them in 1959-1960.

TABLE II

Average Sales Ratios and Average Degree of Concentration of the Middle Half of the Ratio Statewide by Class of Property For Each of Three Years and for Combined Years[a]

Class of Property and Year	No. of Certificates	Aver. Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Range in Pct. Pts.[b] Above Aver. Ratio
One-family dwellings				
1 to 8 years old				
First Year ('57-'58)	8,579	31.8%	2.6	3.1
Second Year ('58-'59)	11,548	31.6	2.7	3.0
Third Year ('59-'60)	10,374	31.1	2.9	2.9
Two Years ('57-'59)	20,127	31.7	2.7	3.1
Three Years ('57-'60)	30,501	31.5	2.7	3.1
9 to 18 years old				
First Year ('57-'58)	2,455	29.1	3.6	4.1
Second Year ('58-'59)	3,646	28.8	3.0	3.4
Third Year ('59-'60)	3,672	28.4	3.2	3.5
Two Years ('57-'59)	6,101	28.9	3.2	3.6
Three Years ('57-'60)	9,773	28.7	3.2	3.6
19 to 28 years old				
First Year ('57-'58)	917	27.0	4.2	5.6
Second Year ('58-'59)	1,032	26.7	4.0	4.6
Third Year ('59-'60)	1,013	26.8	3.6	4.6
Two Years ('57-'59)	1,949	26.8	4.1	4.9
Three Years ('57-'60)	2,962	26.8	3.9	4.8
29 to 48 years old				
First Year ('57-'58)	2,603	24.6	4.0	4.8
Second Year ('58-'59)	3,186	24.0	3.8	4.5
Third Year ('59-'60)	2,953	23.7	3.7	4.3
Two Years ('57-'59)	5,789	24.3	3.9	4.5
Three Years ('57-'60)	8,742	24.1	3.9	4.5
Over 48 years old				
First Year ('57-'58)	2,470	22.0	4.7	5.4
Second Year ('58-'59)	3,074	21.6	4.3	5.1
Third Year ('59-'60)	3,278	21.9	4.3	5.3
Two Years ('57-'59)	5,544	21.8	4.5	5.4
Three Years ('57-'60)	8,822	21.8	4.4	5.4

TABLE II
(continued)

Class of Property and Year	No. of Certif-icates	Aver. Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Above Aver. Ratio
All ages combined				
First Year ('57-'58)	17,024	28.1%	3.5	4.2
Second Year ('58-'59)	22,486	27.7	3.3	3.9
Third Year ('59-'60)	21,290	27.5	3.3	3.8
Two Years ('57-'59)	39,510	27.9	3.4	4.0
Three Years ('57-'60)	60,800	27.8	3.4	3.9
Multi-family dwellings				
First Year ('57-'58)	628	31.3	7.0	4.1
Second Year ('58-'59)	808	30.8	5.6	5.3
Third Year ('59-'60)	924	31.1	5.9	5.4
Two Years ('57-'59)	1,436	30.7	5.9	5.1
Three Years ('57-'60)	2,360	30.9	6.0	5.2
Commercial buildings				
First Year ('57-'58)	521	32.0	7.5	12.8
Second Year ('58-'59)	574	33.4	7.5	9.9
Third Year ('59-'60)	521	33.4	8.1	10.2
Two Years ('57-'59)	1,095	32.8	7.6	10.2
Three Years ('57-'60)	1,616	33.0	7.7	10.5
Industrial buildings				
First Year ('57-'58)	93	37.1	8.2	5.7
Second Year ('58-'59)	139	34.4	5.9	7.0
Third Year ('59-'60)	145	35.2	7.6	11.4
Two Years ('57-'59)	232	35.8	6.9	6.4
Three Years ('57-'60)	374	34.9	7.0	7.8
Total urban				
First Year ('57-'58)	21,346	29.5	4.9	6.1
Second Year ('58-'59)	27,159	29.3	4.5	5.4
Third Year ('59-'60)	22,880	29.3	4.6	5.8
Two Years ('57-'59)	48,505	29.4	4.7	5.5
Three Years ('57-'60)	65,150	29.5	4.6	5.6

TABLE II
(continued)

Class of Property and Year	No. of Certif-icates	Aver. Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Above Aver. Ratio
Agric. land having impts.				
First Year ('57-'58)	799	25.7%	5.6	7.1
Second Year ('58-'59)	1,005	23.1	5.6	7.3
Third Year ('59-'60)	499	23.2	5.6	9.8
Two Years ('57-'59)	1,804	24.1	5.6	7.5
Three Years ('57-'60)	2,303	23.9	5.6	7.9
Agric. land having no impts.				
First Year ('57-'58)	448	20.2	4.4	7.7
Second Year ('58-'59)	773	18.3	4.0	6.4
Third Year ('59-'60)	229	17.0	3.4	8.8
Two Years ('57-'59)	1,221	18.8	3.9	6.9
Three Years ('57-'60)	1,450	18.4	3.9	7.2
Misc. rural land having impts.				
First Year ('57-'58)	1,184	25.6	6.2	6.0
Second Year ('58-'59)	1,961	24.1	4.6	7.0
Third Year ('59-'60)	2,290	25.2	5.3	6.2
Two Years ('57-'59)	3,145	24.7	5.1	7.2
Three Years ('57-'60)	5,435	25.0	5.1	6.7
Misc. rural land having no impts.				
First Year ('57-'58)	893	16.7	4.1	6.7
Second Year ('58-'59)	1,104	16.5	4.5	8.1
Third Year ('59-'60)	1,121	14.8	3.9	8.4
Two Years ('57-'59)	1,997	17.4	5.2	7.2
Three Years ('57-'60)	3,118	16.8	4.7	7.5
Total rural				
First Year ('57-'58)	3,324	24.3	5.5	7.0
Second Year ('58-'59)	4,843	22.1	5.0	7.2
Third Year ('59-'60)	4,139	22.0	4.9	8.7
Two Years ('57-'59)	8,167	22.9	5.1	7.4
Three Years ('57-'60)	12,306	22.8	5.1	7.5

TABLE II

Class of Property and Year	No. of Certif-icates	Aver. Sales Ratio	Range in Pct. Pts.[b] Below Aver. Ratio	Above Aver. Ratio
All classes combined				
First Year ('57-'58)	24,670	27.9%	5.1	6.4
Second Year ('58-'59)	32,002	27.0	4.7	6.0
Third Year ('59-'60)	27,019	26.9	4.7	6.8
Two Years ('57-'59)	56,672	27.4	4.9	6.1
Three Years ('57-'60)	77,456	27.3	4.8	6.1

a. Vacant urban land is included in the tabulations for the first and second years of the study and the first two years combined; it is excluded from the tabulations for the third year and for the three years combined. This means, for example, that the total number of certificates shown for the three years combined is not in agreement with the sum of the numbers shown for individual years.

b. Average range above and below the average sales ratio within which the middle half of the sales ratios fall when arranged from low to high.

Comparative Accuracy of the County-Wide Sales Ratio

In earlier paragraphs consideration was given to evidence of dependability of the county-wide sales ratios (for the three years combined) which stems from the existing small differences between the two-year and the three-year average ratios. In this section an attempt is made to appraise the comparative accuracy of the three-year county-wide ratios through a probability approach to the problem.[6]

Two facts about the data are determinants of the accuracy of the average ratios. They are: (1) the number of sales ratios based upon individual property transfers and (2) the variation among the ratios as measured by the average spread of the middle fifty per cent of the ratios. The greater the number of transfers, the greater the accuracy; and the smaller the average spread, the greater the accuracy.

In statistics one talks about universes. Many statistical studies -- indeed most of them -- are based upon samples of the respective universes. For the first example, consider the data for Denver County (ratios based upon all possible arm's length transfers of property) as the universe. The sample on which the three-year ratio is based consists of 20,100 transfers. The spread of the middle fifty per cent of the ratios is 10.1 percentage points; and the county-wide three-year ratio is 32.3 per cent. Because the number of cases is large and the middle-fifty-per-cent spread is small, the margin or error is small. The true ratio may be slightly larger than 32.3 per cent, or it may be slightly smaller. There is no means of saying which.

To simplify the discussion, the margin of error may be defined as the error which would not be exceeded in nine samples out of ten -- a 90 per cent chance that the reported ratio does not differ from the true ratio by more than the indicated amount. Using this definition, the margin of error in the Denver ratio is 0.3 per cent of the ratio of 32.3 per cent or 0.1 of a percentage point. The interpretation is, then, that there is a 90 per cent chance that the reported ratio is in error by not more than this amount and hence that this is the probability that the true ratio falls somewhere in the range from 32.2 per cent to 32.4 per cent (Table III).

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6. This approach, though subject to certain limitations on theoretical grounds, is believed to yield a revealing measure of the comparative dependability of the several ratios. Admittedly approximate, it serves none-the-less to pinpoint the differences between the large and the small counties in this respect.

Table III

Comparative Accuracy of the Sales Ratios for the Counties of Colorado
1957-1960

County	Number of Certificates	Sales Ratio (%)	Pct. Pts. Range of Middle 50% of the Ratios	Prop. Margin of Error (%) for 90% Chance*	Range of the Ratio for Indicated 90% Chance	Rank of County as to Accuracy of Ratio
Denver	20,100	32.3	10.1	0.3	32.2 to 32.4	1
Arapahoe	6,291	27.4	8.5	0.5	27.3 27.5	2
Jefferson	7,389	25.9	8.9	0.5	25.8 26.0	3
Adams	5,192	26.9	8.6	0.5	26.8 27.0	4
El Paso	6,998	22.9	8.6	0.5	22.8 23.0	5
Boulder	3,567	28.4	9.5	0.7	28.2 28.6	6
Pueblo	4,458	23.4	10.4	0.8	23.2 23.6	7
Mesa	2,720	27.0	10.1	0.9	26.8 27.2	8
Larimer	3,391	27.6	12.8	1.0	27.3 27.9	9
Weld	2,759	25.8	13.0	1.2	25.5 26.1	10
Logan	867	24.7	11.6	1.9	24.2 25.2	11
Otero	1,077	32.2	17.3	2.0	31.6 32.8	12
Morgan	863	27.5	13.3	2.0	26.9 28.1	13
Fremont	880	22.7	11.3	2.0	22.2 23.2	14
La Plata	727	22.7	12.0	2.4	22.2 23.2	15
Delta	691	25.3	14.0	2.6	24.6 26.0	16
Montrose	520	24.8	12.9	2.8	24.1 25.5	17
Prowers	464	29.5	14.6	2.8	28.7 30.3	18
Phillips	189	20.6	7.5	3.2	19.9 21.3	19
Chaffee	336	26.3	13.3	3.4	25.4 27.2	20
Montezuma	362	21.8	12.4	3.7	21.0 22.6	21
Washington	207	21.3	9.4	3.8	20.5 22.1	22
Kit Carson	276	21.3	11.0	3.8	20.5 22.1	23
Grand	258	23.5	12.1	3.9	22.6 24.4	24
Yuma	281	18.9	10.2	3.9	18.2 19.6	25

Table III
(Continued)

County	Number of Certificates	Sales Ratio (%)	Pct. Pts. Range of Middle 50% the Ratios	Prop. Margin of Error (%) for 90% Chance*	Range of the Ratio for Indicated 90% Chance	Rank of County as to Accuracy of Ratio
Rio Grande	320	33.0	19.1	4.0	31.7 to 34.3	26
Baca	229	20.2	9.9	4.0	19.4 21.0	27
Garfield	424	26.0	17.5	4.0	25.0 27.0	28
Routt	350	29.3	18.1	4.0	28.1 30.5	29
Alamosa	284	30.0	16.9	4.1	28.8 31.2	30
Bent	220	34.7	17.2	4.1	33.3 36.1	31
Sedgwick	141	22.3	8.9	4.1	21.4 23.2	32
Pitkin	197	18.5	9.2	4.3	17.7 19.3	33
Douglas	259	18.3	10.5	4.4	17.5 19.1	34
Clear Creek	324	19.5	13.1	4.6	18.6 20.4	35
Moffat	224	24.9	13.9	4.6	23.8 26.0	36
Lincoln	184	22.7	11.7	4.6	21.7 23.7	37
Teller	304	17.8	12.5	4.9	16.9 18.7	38
Park	212	23.6	14.6	5.2	22.4 24.8	39
Lake	178	21.6	13.2	5.6	20.4 22.8	40
Kiowa	129	25.2	13.1	5.6	23.8 26.6	41
Gilpin	159	17.0	10.7	6.1	16.0 18.0	42
Gunnison	232	19.9	15.5	6.3	18.6 21.2	43
Las Animas	385	23.7	26.0	6.8	22.1 25.3	44
Elbert	149	19.8	13.5	6.8	18.5 21.1	45
Huerfano	269	20.9	19.4	6.9	19.5 22.3	46
Cheyenne	81	24.8	13.7	7.5	22.9 26.7	47
Saguache	89	38.0	22.7	7.8	35.0 41.0	48
Crowley	132	30.4	23.3	8.2	27.4 33.4	49
Conejos	161	33.5	28.5	8.2	30.8 36.2	50

Table III
(Continued)

County	Number of Certificates	Sales Ratio (%)	Pct. Pts. Range of Middle 50% of the Ratios	Prop. Margin of Error (%) for 90% Chance*	Range of the Ratio for Indicated 90% Chance	Rank of County as to Accuracy of Ratio
Dolores	82	24.7	15.2	8.3	22.6 to 26.8	51
Eagle	95	24.8	16.8	8.5	22.7 26.9	52
Ouray	88	23.8	15.7	8.6	21.8 25.8	53
Rio Blanco	131	24.3	23.6	10.4	21.8 26.8	54
Custer	95	23.8	19.7	10.4	21.3 26.3	55
Archuleta	64	19.9	14.6	11.3	17.7 22.1	56
San Miguel	87	30.0	26.5	11.6	26.5 33.5	57
San Juan	48	36.5	25.7	12.5	31.9 41.1	58
Costilla	86	37.2	36.9	13.1	32.3 42.1	59
Jackson	51	18.6	14.8	13.7	16.1 21.1	60
Summit	83	24.5	25.8	14.2	21.0 28.0	61
Hinsdale	22	22.2	12.5	15.0	18.9 25.5	62
Mineral	31	31.8	49.3	34.5	20.8 42.8	63

* For a 90 per cent chance that the reported ratio does not differ from the true ratio by more than the indicated proportion.

Take Pitkin County as another example. The "middle-fifty-per-cent spread" is 9.2 percentage points; and the number of cases is 197. The spread is comparable to Denver's; but the number of cases is much smaller. Because of this difference, the margin of error for Pitkin County is far greater than Denver's. It is found to be 4.3 per cent of the ratio of 18.5 per cent or 0.8 of a percentage point; and the indicated range for the 90 per cent chance of including the true ratio within it is from 17.7 per cent to 19.3 per cent.

For Huerfano County, to take a third example, the ratio is 20.9 per cent; the number of cases is 269; and the middle-fifty-per-cent spread is 19.4 percentage points. Although the number of cases is somewhat larger than that for Pitkin County, the margin of error is greater; it is 6.9 per cent of the county ratio or 1.4 percentage points; and the range for the 90 per cent chance of including the true ratio within it is from 19.5 per cent to 22.3 per cent. For only one of the counties (Mineral) is this margin of error more than 15 per cent of the county ratio.

While this approach to an examination of the dependability of the county-wide ratios is basically different from the stability approach discussed earlier, the results by the two approaches are believed to be fully consistent with each other.

Comparative Sales and Appraisal Ratios

Because the number of usable certificates for some of the counties has been known to be too small for determination of the ratios with the desired degree of precision, it was decided that appraisals should be made (for purposes of checking and comparison) of properties of selected classes in each of nineteen counties in the state, as follows: Archuleta, Conejos, Costilla, Crowley, Custer, Eagle, Gunnison, Huerfano, Las Animas, Mineral, Ouray, Park, Phillips, Rio Grande, Saguache, San Juan, San Miguel, Sedgwick, and Summit. In arriving at this group of counties, an attempt was made to include in it those counties whose two-year ratios were most in need of checking, except that six counties (Cheyenne, Hinsdale, Jackson, Kiowa, Lake, and Rio Blanco) which receive no state aid were excluded from it. Several criteria of selection were employed for this purpose, including the proportionate margin of error as discussed above.

With reference to this proportionate margin of error (based upon data for two years) it was decided that appraisals should be made in those counties in which this margin of error was greater than 10 per cent. There were eleven such counties in this category. Other counties were added to include (1) those in which there were insufficient transactions among properties in one or more property classes -- which were important in terms of total assessed value -- to determine sales ratios for them, (2) those for which the middle-fifty-per-

cent spread was 20 percentage points or more, (3) those for which the number of usable certificates in the two years combined was less than 80 per county, and (4) those for which the sales ratios for the two years differed by five percentage points or more. This yielded a group of twenty-five counties from which the six counties listed above as receiving no state aid were eliminated.

To obtain a measure of the average difference between the appraisal and sales ratios, all of the appraisal data were consolidated and so were all of the sales data for corresponding classes of property, using the system of weights which has been employed since the inception of the study. When this was done, it was found (Table V) that the difference between the two averages was less than one percentage point; the over-all average appraisal and sales ratios are 25.6 per cent and 24.7 per cent, respectively.

Appraisal-sales ratios were determined for the nineteen counties using the appraisal ratios for all classes of property for which appraisal data are available and the three-year average sales ratios for all other classes. The ratios so obtained are compared (Table VI) with the three-year average sales ratios as presented in Table I. On this basis, the appraisal-sales ratio is the greater in eleven counties and the sales ratio is the greater in the remaining eight. The 19-county average appraisal-sales and sales ratios are 26.3 per cent and 25.4 per cent, respectively.

Table IV

Comparative Appraisals and Sales Ratios - Nineteen Counties

County and Class of Property	Appraisal Data		Sales Data[a]	
	No. of Appraisals	Appraisal Ratio	No. of Certificates	Sales Ratio
Archuleta				
One Family Dwelling 9 to 18 years old	5	47.8	10	29.5
Commercial Buildings	5	37.0	1	25.5
Agric. Land Having Impts.	3	31.5	10	18.5
Misc. Rural Land Having Impts.	5	25.0	4	34.6
Average of above classes	18	31.7	25	19.8
County-Wide	--	----	64	19.9
Conejos				
One Family Dwelling 9 to 18 years old	8	30.4	11	33.1
Commercial Buildings	8	28.9	3	27.2
Agric. Land Having Impts.	5	33.9	37	33.9
Agric. Land - No Impts.	5	31.6	38	31.8
Average of above classes	26	33.2	89	33.1
County-Wide	--	----	161	33.5
Costilla				
One Family Dwelling 19 to 28 years old	5	45.6	7	48.4
Commercial Buildings	5	44.3	1	44.9
Agric. Land Having Impts.	5	23.7	16	37.0
Agric. Land - No Impts.	5	34.5	28	28.8
Misc. Rural Land Having Impts.	4	26.0	5	53.5
Average of above classes	24	26.6	57	36.5
County-Wide	--	----	86	37.2
Crowley				
One Family Dwelling 9 to 18 years old	4	29.8	8	31.0
Commercial Buildings	5	63.0	8	59.0
Agric. Land Having Impts.	5	29.2	23	30.6
Agric. Land - No Impts.	5	21.7	19	26.1
Average of above classes	19	28.6	58	30.8
County-Wide	--	----	132	30.4
Custer				
Commercial Buildings	5	27.9	5	25.4
Agric. Land Having Impts.	5	19.6	14	23.9
Agric. Land - No Impts.	5	20.5	9	20.1
Average of above classes	15	19.9	28	23.8
County-Wide	--	----	95	23.8

Table IV Continued

County and Class of Property	Appraisal Data		Sales Data[a]	
	No. of Appraisals	Appraisal Ratio	No. of Certificates	Sales Ratio
Eagle				
One Family Dwelling				
1 to 8 years old	5	33.7	---	35.8
Over 48 years old	5	23.5	10	33.0
Commercial Buildings	5	47.1	5	53.8
Agric. Land Having Impts.	5	30.5	12	22.7
Agric. Land - No Impts.	4	12.9	7	17.3
Average of above classes	24	25.7	34	23.9
County-Wide	--	----	95	24.8
Gunnison				
Commercial Buildings	5	34.2	14	34.2
Agric. Land Having Impts.	5	21.5	8	19.9
Average of above classes	10	23.6	22	22.1
County-Wide	--	----	232	19.9
Huerfano				
One Family Dwelling				
19 to 28 years old	5	28.0	15	37.5
Agric. Land Having Impts.	5	18.9	35	15.5
Misc. Rural Land Having Impts.	2	28.3	10	22.3
Average of above classes	12	20.0	60	16.6
County-Wide	--	----	269	20.9
Las Animas				
Commercial Buildings	5	50.2	14	46.3
Agric. Land Having Impts.	5	20.1	20	20.2
Agric. Land - No Impts.	6	26.4	39	16.0
Average of above classes	16	24.4	73	22.4
County-Wide	--	----	385	23.7
Mineral				
Commercial Buildings	6	33.5	6	44.3
County-Wide	--	----	31	31.8
Ouray				
Commercial Buildings	5	32.4	6	39.8
Agric. Land Having Impts.	5	17.2	13	21.2
Misc. Rural Land Having Impts.	5	11.6	1	23.8
Misc. Rural Land - No Impts.	5	12.7	2	42.0
Average of above classes	20	16.1	22	25.3
County-Wide	--	----	88	23.8

Table IV Continued

County and Class of Property	Appraisal Data		Sales Data[a]	
	No. of Appraisals	Appraisal Ratio	No. of Certificates	Sales Ratio
Park				
One Family Dwelling				
1 to 8 years old	5	26.7	2	41.8
19 to 28 years old	3	27.7	15	26.0
Commercial Buildings	5	32.2	5	30.8
Agric. Land Having Impts.	5	29.8	21	22.7
Agric. Land - No Impts.	5	23.3	8	15.0
Average of above classes	23	29.3	51	23.3
County-Wide	--	----	212	23.6
Phillips				
One Family Dwelling				
9 to 18 years old	5	35.5	13	29.9
Agric. Land Having Impts.	5	31.3	18	22.4
Agric. Land - No Impts.	5	22.3	36	17.1
Average of above classes	15	25.8	67	18.7
County-Wide	--	----	189	20.6
Rio Grande				
Agric. Land Having Impts.	5	28.4	43	34.2
Agric. Land - No Impts.	5	25.5	5	29.0
Average of above classes	10	28.2	48	33.8
County-Wide	--	----	320	33.0
Saguache				
Commercial Buildings	5	46.7	7	39.1
Agric. Land Having Impts.	5	30.0	13	42.6
Agric. Land - No Impts.	5	30.8	9	24.4
Average of above classes	15	30.9	29	39.7
County-Wide	--	----	89	38.0
San Juan				
Commercial Buildings	5	32.7	1	36.5
County-Wide	--	----	48	36.5
San Miguel				
One Family Dwelling				
1 to 8 years old	4	29.0	4	30.9
29 to 48 years old	5	26.0	7	29.4
Commercial Buildings	5	38.2	6	61.9
Agric. Land Having Impts.	4	24.6	11	31.8
Average of above classes	18	25.7	28	33.1
County-Wide	--	----	87	30.0

Table IV Continued

County and Class of Property	Appraisal Data		Sales Data[a]	
	No. of Appraisals	Appraisal Ratio	No. of Certificates	Sales Ratio
Sedgwick				
Commercial Buildings	5	39.6	4	49.0
Agric. Land Having Impts.	5	27.1	15	21.1
Agric. Land - No Impts.	5	22.0	12	16.9
Average of above classes	15	25.7	31	20.3
County-Wide	--	----	141	22.3
Summit				
Commercial Buildings	5	22.4	1	27.6
Agric. Land Having Impts.	5	21.8	2	11.5
Average of above classes	10	22.0	3	13.7
County-Wide	--	----	83	24.5

a Based upon usable certificates for the three-year period 1957-1960.

Table V

Comparative sales and appraisal ratios for classes of property for which both sales and appraisal data are available - 19 counties combined

Class of Property	Appraisal Data		Sales Data[a]	
	No. of Appraisals	Appraisal Ratio	No. of Certificates	Sales Ratio
One Family Dwellings				
1 to 8 years old	14	29.3	6	36.9
9 to 18 years old	22	33.6	42	30.8
19 to 28 years old	13	30.9	37	33.0
29 to 48 years old	5	26.0	7	29.4
Over 48 years old	5	23.5	10	33.0
Total One Family	59	30.2	102	32.7
Commercial Buildings	84	40.8	87	40.8
Total Urban	143	38.1	189	38.8
Agric. Land Having Impts.	82	25.2	311	25.1
Agric. Land Having No Impts.	55	23.0	210	18.6
Total Agric.	137	24.8	521	23.4
Misc. Rural Land Having Impts.	16	19.2	20	26.0
Misc. Rural Land Having No Impts.	5	12.7	2	42.0
Total Rural	158	24.5	543	23.5
Grand Total	301	25.6	732	24.7

a. Based upon usable certificates for the three-year period 1957-1960.

Table VI

Sales Ratios Compared with Ratios Based Upon a Combination of Appraisal and Sales Data

County	Appraisal-Sales Ratio[a]	Sales Ratio 3 Year Average
Archuleta	29.3	19.9
Conejos	34.3	33.5
Costilla	28.4	37.2
Crowley	28.7	30.4
Custer	20.6	23.8
Eagle	26.2	24.8
Gunnison	20.6	19.9
Huerfano	23.4	20.9
Las Animas	25.3	23.7
Mineral	31.9	31.8
Ouray	17.4	23.8
Park	28.0	23.6
Phillips	26.4	20.6
Rio Grande	29.7	33.0
Saguache	30.9	38.0
San Juan	35.9	36.5
San Miguel	27.6	30.0
Sedgwick	26.8	22.3
Summit	28.0	24.5
19-County Average	26.3	25.4

a. Appraisal ratios used for all classes of property for which appraisal data are available, with average 1957-1960 sales ratios used for all other classes.