REAL PROPERTY ASSESSMENTS IN PAYNE COUNTY, OKLAHOMA

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CHAPTER I

INTRODUCTION

The ad valorem tax or general property tax is the basic source of
revenue for the support of local government in Oklahoma. This tax is
placed on three types of property: (1) personal, (2) real, and (3) pub-
lic service property. It is the duty of the county assessor to place a
value for tax purposes on each item of personal and real property lo-
cated within his county. This value should be just and equitable when
compared to values placed on other properties within the county. The
same responsibility, of course, falls on the Oklahoma Tax Commission to
place equitable values on property owned by public service companies.
This study is concerned, however, with the evaluation for tax purposes
of only one of these property classifications, that of individually
owned real property.

Assessment of Real Property

According to Oklahoma tax laws, all taxable real property:

shall be assessed annually at the fair cash value, estimated
at the price it would bring at a fair voluntary sale as of the
first day of January of each year, except that real property
and tangible personal property shall not be assessed for taxa-
tion at more than thirty five (35) per cent of its fair cash
value. [1]

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[1]Oklahoma Tax Commission, Oklahoma Ad Valorem and Intangible
Personal Property Tax Laws (Oklahoma City, 1960), p. 8.

Real property is much more heterogeneous than either personal property or public service property. It is much more difficult, therefore, to place a fair cash value on it. Each individual unit of real property is different from all other units. Even if two units could be found which seemed to resemble each other in every respect they still would be in different locations, and often location is an important factor in determining the fair cash value of real property.

Real estate makes up, by far, the largest part of all property taxed on an advalorem basis. In Oklahoma 62.4 per cent of the value of all assessed property is real property with 16.9 per cent and 20.7 per cent of the total value being personal property and public service property respectively.[2]

Since real property comprises such a large portion of all properties and since it is the most difficult to assess in an equitable manner, a comprehensive analysis of the problems of evaluation and the effects of assessments should be useful. The ensuing report attempts to partially accomplish this purpose for one county.

<center>Other Studies</center>

Several studies of similar nature have been conducted in Oklahoma in the past. One of these was a study made of Pottawatomie county by the Business Extension Service of Oklahoma State University.[3] This

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[2]The Sixteenth Biennial Report of the Oklahoma Tax Commission, p. 241.

[3]Ansel M. Sharp and Duck Nam, A Study of the Property Tax in Pottawatomie County, Oklahoma, Business Extension Service, Oklahoma State University (Stillwater, Oklahoma, July, 1961).

study was made in and around the city of Shawnee, Oklahoma, with spe-
cial emphasis on that city. It compared assessed value to appraised
value of real property. Professional appraisals were used as an esti-
mate of fair market value. The authors of the study felt that this
was the best method for their study since it would permit random sam-
pling and could be accomplished within a relatively short period of
time.

A second study was made of unimproved farmland in Tulsa county.[4]
This study used the value of the federal revenue stamp to determine
the sale value of actual property transactions.

The law requires that when real property is transferred revenue
stamps shall be placed on the deed in an amount of 55 cents per $500
of sale value. For example, property which sells for $5,000 would
have $5.50 worth of revenue stamps on the deed. Therefore, one can
estimate within $500 the sale value of a property by the value of the
stamps placed on the deed filed in public records.

A second study which also relied on revenue stamps for estimating
the sale prices of transferred properties was made in Washita county.
This study was for the purpose of determining the ratio of assessed
values of farm land.[5] Improved and unimproved properties were studied
with consideration given to the quality of the land.

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[4] Mohammed M. A. Ahmend, An Economic Evaluation of Farmland for
Tax Assessment, Tulsa County, Oklahoma, (Ph.D. dissertation, Oklahoma
State University, May, 1964).

[5] James Vernon Son, A Study of the Ratio of Assessed Value to Sale
Prices of Farm Real Estate, Washita County. (Unpub. report, Oklahoma
State University, August, 1964).

These two methods of determining market value, actual appraisal and estimation from the value of stamps, are not without disadvantages. When professional appraisals are used this is merely one person's estimate of the value of the property and not necessarily the true market value. The assessment value itself is an appraisal of the property which is reduced to represent a given percentage of its market value. Therefore, this procedure is merely substituting one person's conjecture for that of another.

The federal revenue stamp procedure has a possible $499 error associated with every sale. Revenue stamps are sold only in multiples of 55 cents. Since the law requires that revenue stamps be purchased to cover the amount of the sale, if the sale is for any amount above a $500 bracket, the deed would require an additional 55 cents of revenue stamps. For example a $5,000 sale would require $5.50 of revenue stamps while $5,001 would require $6.05 of revenue stamps; therefore, there is a $499 variation in possible values. On sales of relatively small value this error can become very important.

In addition to this source of error, revenue stamps are not required on the value of a mortgage held by a third party when this mortgage is assumed by the grantee in its present form without being altered by the sale. For example if a piece of property sold for $10,000 with the grantee paying the grantor $5,000 and assuming an existing mortgage held by a third party of $5,000, the deed would require only $5.50 worth of revenue stamps. Consequently unless a person can determine the amount of the existing mortgage, revenue stamps are of little use in determining the sale value of property when transferred in this

manner. Also because of lack of understanding of the law or for other reasons, stamp values may not represent the actual sales value of property.

The third possible alternative to establishing the market value of property is to find bona fide sales of property and get the sale value confirmed by either the seller or buyer of the property. This method should reveal the true market value. However, this approach requires more time and effort in selecting and confirming an adequate number of sales for a study. In order to get enough verified transactions the study often must cover a longer time period during which property values may change. Also, the problem of obtaining a random sample presents itself. Although these problems are very real the fact still remains that the confirmed value method is more likely to give an accurate market value for property. Therefore, the confirmed value method was used in this study.

Objectives

This study has four basic objectives: (1) Compare assessment ratios of both rural and urban, improved and unimproved and homestead and rental properties. Most previous studies, with the exception of the one in Pottawatomie county, considered only one type of property such as rural or unimproved rural property. There appeared to be a place for a more general study in which more categories could be studied under one analysis. (2) Determine the effect of homestead exemption, as permitted by Oklahoma law, on the tax revenues and the effects which a change in this law might have on revenues and tax

payers. (3) Analyze the consequences and effects of uniform assessments on tax revenue, property values, and land use. (4) Check the accuracy of using the revenue stamps for determining the value of property which has sold. The other studies could only assume that revenue stamp values were adequate. This study will check this assumption.

Payne County was chosen for this study because of the relative ease with which sales could be confirmed. Since confirmation does require considerably more effort in a study of this nature, it was felt that better data could be obtained in an area located close to the individuals performing the study so as to minimize the cost of data collecting.

In Payne county about 61 per cent of all assessed property is real property, about 19 per cent is personal property, and about 20 per cent is public service property. When this is compared to the values given earlier for Oklahoma as a whole of 62 per cent, 16 per cent, and 21 per cent for real, personal, and public service property respectively, it appears that Payne county is representative of Oklahoma with respect to the distribution of property value.

Procedure

Essential information on all apparent bona fide sales of real estate recorded in Payne county public records between November, 1961 and August, 1963 was copied. All but 10 of these sales fell between May, 1962 and February, 1963. Four sales occurred before May, 1962 and 6 sales occurred after February, 1963. Data on 288 sales were recorded. Information concerning assessment values of both land and

improvements, stamp value, information concerning mortgages, name of grantor, name of grantee, legal description of property, and homestead exemption deductions were obtained from public records. The buyer or seller was then contacted usually in person, but occasionally by letter or by telephone, in an effort to find the actual sale value of the property. Any sales which were reported to have been made under special circumstances, such as forced sales or sales to relatives were discarded since they might not be representative of true value. Of the original sample of 288, 208 of the sales had the sales price actually confirmed and designated as a bona fide transaction by either the grantor or grantee. Therefore, the 208 confirmed sales were used for the study and an analysis made of those factors affecting the real property tax structure.

CHAPTER II

ASSESSMENT RATIOS

An assessment ratio is the ratio of total assessed value, for
both land and improvements, expressed as a percentage of the actual
market value of the property. This ratio tells at what level prop-
erty is being assessed with respect to its market value. Taxes are
levied on property at a given number of dollars per $1,000 of assessed
value. Therefore, the assessment ratio should be equal for all prop-
erties within a given tax area if the taxes are to be distributed
equitably among property owners. This chapter will examine the actual
equality of this assessment ratio in Payne county with respect to dif-
ferent groups of property.

Also discussed will be the problems encountered in classifying or
grouping the data; the value used to represent the central tendency or
average of a group; and the assessment ratios resulting from the study.

Grouping

The confirmed sales were initially divided into four basic
categories for analysis: improved urban, unimproved urban, improved
rural, and unimproved rural. Improved property was to include all
property which had a value for improvements recorded in the assessor's
records for tax purposes. Unimproved property was property which
had an assessment value for land only. There were 136 improved urban,

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31 unimproved urban, 24 improved rural, and 17 unimproved rural prop-
erties.

Upon further analysis the unimproved rural seemed to have two
groups within itself. One group had land sale values of less than
$100 per acre with an average sale value of $58 per acre. The second
group had sold for $200 per acre or more with an average sale value of
$234. There was only one property which sold for more than $100 but
less than $200 per acre. Of the second group all were 40 acres or less
in size. Payne county is for the most part a pasture, range, and gen-
eral farming area. It is likely that little of the best cropland is
worth $200 per acre for strictly agricultural purposes at current lev-
els of commodity prices and yields. Seven of the 17 sales of unimprov-
ed rural property fell in the second group. Since this was such a
large percentage it was felt these sales could greatly influence any
results which might be obtained for unimproved rural property. If they
were not representative of this class false conclusions could result.
Therefore, it was hypothesized that any sales in the sample for more
than $200 per acre were for purposes other than agriculture. These
seven sales were separated for individual observation.

Six of the seven properties were visited by the author. Of the
six, one was still a small 40 acre farm. However, it was on a main
highway about one mile from Stillwater and was a potential building
location since it was bounded on one side by a new housing project.
Two of the properties were excellent building locations close to
Stillwater with one of them across the highway from a golf course.
Two of the properties had already been developed with new homes on

them. One of these, although several miles from Stillwater, had five new homes built on the one tract of land. The remaining property was in a poor building location subject to frequent flooding. It appeared to remain an unimproved pasture. In an effort to see why it had such a high sale value the property was inspected and was found to have a pumping oil well on it. The public records showed the property had transferred with all mineral rights. Therefore, six of the properties were in fact purchased for non-agricultural purposes. The seventh property, although not inspected, appeared from maps to fall in the non-agricultural category because of its location.

These seven properties were removed from the unimproved rural classification and placed with the unimproved urban properties to form a new classification of unimproved urban and speculative lands. Upon final grouping there were 136 improved urban properties, 38 unimproved urban and speculative properties, 24 improved rural properties, and 10 unimproved rural properties.

Central Tendency

Two values were chosen to represent the central tendency of the groups: The unweighted mean or average and the weighted mean. The unweighted mean was chosen since statistical analysis could be used to set confidence intervals on this mean, and the means of two different groups could be checked for significant differences. The test for significant differences and the confidence intervals were felt to be important because of the wide variation in numbers of sales in different groups, ranging from 10 in unimproved rural to 136 in improved urban.

With only 10 observations to represent an entire population it is very unrealistic to talk about the mean of the population without qualifying the statement. The confidence intervals and tests for significance are used for this purpose. The unweighted mean was obtained by taking the assessed value of each property and dividing by the sale value for that property. The assessment ratio for each individual property was then summed with other properties in the same group to get a total figure for that group. This figure was then divided by the total number of observations within that group and an average assessment ratio was obtained. This procedure will result in each sale having the same influence on the total as all other sales. For example, if a small acreage sold for $3,000 and had an assessment ratio of 5 per cent and a large farm sold for $30,000 and had an assessment ratio of 20 per cent, each would be given the same importance. Their total would be 25 with two observations. The mean assessment ratio would be 12.5 per cent.

The weighted mean was chosen to enable large sales to receive the importance they deserve in influencing the total assessment ratio. The weighted mean was obtained by summing all assessment values within a group and dividing by the sum of the sales values for that group. Thus, sales for larger sums of money received more importance than sales of smaller value. Referring to the previous example, the $3,000 property with a 5 per cent assessment ratio would have an assessment value of $150. The $30,000 property with a 20 per cent assessment ratio would have an assessment value of $6,000. The weighted mean would then be $6,150 divided by $33,000 or 18.6 per cent. This is considerably

different from the 12.5 per cent for the unweighted mean.

One cannot say which is better the weighted or unweighted mean. Both have their purpose and are used together to give a better picture of the whole analysis.

Assessment Ratios

Assessment ratios for the data collected in Payne county were calculated in the preceeding manner and the results of these calculations and comparisons follow.

Improved Urban vs. Unimproved Urban and Speculative Properties. When assessment ratios for improved urban and unimproved urban property and speculative land were calculated and compared, a large difference was found in their levels of assessment.

The 136 improved urban properties had an unweighted mean assessment ratio of 24.1 per cent. When a 95 per cent confidence interval was placed on this mean the interval had a range of 21.9 to 26.1 per cent. The weighted mean for the same sales of improved urban property was 20.6 per cent.

The 38 unimproved urban and speculative properties had an unweighted assessment ratio of 6.1 per cent with a confidence interval of from 4.0 to 8.2 per cent. These properties had a weighted assessment ratio mean of 4.6 per cent.

When the unweighted means for improved urban and the unweighted means of unimproved urban and speculative property were tested for significances, they were found to be significantly different at the 95 per cent level. This tells us that unimproved urban and speculative

properties were being assessed and, therefore, taxed at a significantly lower level than improved urban properties.

Improved Rural vs. Unimproved Rural Properties. When the mean assessment ratios for improved rural and unimproved rural properties were calculated and compared some difference was found, but the data were inadequate to tell whether this difference was meaningful.

The 24 improved rural properties had an unweighted assessment ratio of 14.7 per cent with a confidence interval of from 12.5 to 16.9 per cent. These same properties had an weighted assessment ratio mean of 13.1 per cent.

The 10 unimproved rural properties had an unweighted assessment ratio of 18.1 per cent with a confidence interval of from 11.7 to 24.6 per cent. That these properties had a large variation of assessment ratios within the group is shown by the large confidence interval which had to be placed on the mean. The weighted assessment ratio for these properties was 16.0 per cent.

When the unweighted means of assessment ratios for improved rural and unimproved rural properties were tested for significance, no significant difference between them was found. Although there is 3.4 per cent difference in the calculate means, using the existing information one cannot say that in reality there is a difference in the rates at which improved rural and unimproved rural properties are assessed. This can also be shown by observing that the confidence interval for unimproved rural property contains within its boundaries of 11.7 and 24.6 the limits or confidence interval for improved rural property of 12.5 and 16.7.

Rural vs. Urban Properties. When assessment ratios for all rural properties and all urban properties were calculated and compared the results showed a difference between their ratios large enough to be considered significant.

The comparison included both improved and unimproved properties. The 174 urban properties had an unweighted assessment ratio of 20.1 per cent with a confidence interval of from 18.3 to 23.0 per cent. These properties had a weighted mean of 19.4 per cent.

The 34 rural properties had a unweighted assessment ratio of 15.7 per cent with a confidence interval from 13.4 to 18.0 per cent. The weighted mean for rural properties was 13.5 per cent.

The test for significance between urban and rural showed there was a significant difference between their means. This says that urban property is being assessed at a higher rate relative to market values than is rural property.

Improved Urban vs. Improved Rural Properties. When inproved urban was tested against improved rural properties, a significant difference was found between them, with improved urban property being assessed at a significantly higher rate than improved rural property.

Cushing Property vs. Other Improved Urban Property. It is possible for different communities within a county to be assessed at different percentages of market value. This could result from several causes. The property values in one community might be checked by the assessor less frequently, therefore, a change in market value would go unnoticed for a longer period of time. Possibly the assessor compares property in one community to comparable property in another community and does

not realize the importance of location as a factor in determining market value. Consequently both properties will be assessed at the same value, but one property will be of lower market value.

While the data were being processed it was noticed that Cushing, the second largest city in Payne county, had a number of improved urban properties being assessed at considerably above normal rate. Therefore, it was decided to remove the Cushing sales and compare them to other improved urban properties. The 36 properties located in Cushing had an unweighted assessment ratio mean of 32.0 per cent with a confidence interval from 27.3 to 36.7 per cent. The weighted assessment ratio mean for Cushing was 25.0 per cent.

The remaining 100 improved urban properties had an unweighted mean of 21.2 per cent with a confidence interval of 19.9 to 22.6 per cent. The weighted mean for the remaining properties was 19.8 per cent.

When these were tested for significance there was shown to be a significant difference between them. This says that the improved urban property in Cushing is being assessed at a rate higher than other improved property in the county.

Homestead Exempt Properties vs. Rent Properties. When properties claiming homestead exemption were compared to other properties little difference was found to exist in their assessment ratios.

The 136 improved urban properties were classified into homestead exempt properties and non-homestead exempt properties or in most cases rent properties. The 59 homestead exempt properties had an unweighted assessment ratio mean of 22.9 per cent with a confidence interval of 20.5 to 25.2 per cent. The remaining 77 properties had an unweighted

assessment ratio mean of 25.0 per cent and a confidence interval from 22.2 to 27.8 per cent.

When the assessed value of properties was tested for a significant difference between them, none was found. The 2.1 per cent difference between the two means was not enought to conclude that the two properties were being assessed at different rates.

Totals. When all rural properties and all urban properties in the study were combined the unweighted assessment ratio for the county was 19.4 per cent with a confidence interval from 17.8 to 21.0 per cent. The weighted mean for all properties in the study was 18.3 per cent. These means will be revised in later discussion and will be used for further analysis and comparison. Tables I and II give a summary of the results of the assessment ratio study.

Unweighted Means vs. Weighted Means

In every comparison made in this study, the unweighted assessment ratio mean was larger than the weighted assessment ratio mean. Since the smaller sales values receive relatively more importance in the unweighted than in the weighted procedure, the conclusion is that the lower valued properties are being assessed at a higher rate than are the higher valued properties. This means that owners of the less valuable tracts of land and lower valued houses may be carrying more than their fair share of the ad valorem tax burden. The weighted mean, in most cases, was very near the lower limit of the confidence intervals placed on the unweighted means for the same group. In the case of improved urban properties this weighted mean was actually below the

TABLE I

SUMMARY OF ASSESSMENT RATIO MEANS

Group	Number of Confirmed Value	Weighted Mean	Unweighted Mean	95% Confidence interval Lower		Upper
Cushing improved Urban	36	24.982	31.968	27.274	-	36.662
Other improved Urban	100	19.783	21.230	19.907	-	22.553
All improved Urban	136	20.608	24.073	21.866	-	26.134
Unimproved Urban	38	4.553	6.080	3.959	-	8.200
Urban	174	19.362	20.142	18.286	-	21.998
Improved Rural	24	13.061	14.724	12.502	-	16.946
Unimproved Rural	10	15.953	18.145	11.678	-	24.612
Rural	34	13.466	15.730	13.413	-	18.047
Homestead	59	-	22.867	20.545	-	25.189
Rent	77	-	24.994	22.195	-	27.793
Total	208	18.300*	19.419	17.809	-	21.029

*This value will be corrected later in the presentation.

TABLE II

TEST FOR SIGNIFICANCE BETWEEN GROUPS

Group	Higher Assessment Ratio of the Two	Difference between Unweighted Means	Significant at 95% Level
Improved Urban vs. Unimproved Urban	Improved Urban	17.993	yes
Improved Rural vs. Unimproved Rural	Unimproved Rural	3.21	no
Cushing vs. Other Improved Urban	Cushing	10.738	yes
Improved Urban vs. Improved Rural	Improved Urban	9.349	yes
Rural vs. Urban	Urban	4.412	yes
Homestead Exempt vs. Rent	Rent	2.127	no

lower confidence interval of the unweighted mean by 1.2 per cent. When the data on improved urban and unimproved urban properties were placed together even the relatively large number of unimproved urban properties and speculative land with extremely low assessment ratio did not completely correct this phenomena.

Composition of Sample

In an effort to determine if any particular group had been over or under represented in its effect on the total assessment ratio means, the composition of the sample was studied.

It was found that of all rural properties studied, 14.0 per cent of the total rural confirmed value was unimproved while 86.0 per cent was improved rural property.

Of the urban properties studied 7.8 per cent of the total urban confirmed value was unimproved while 92.2 per cent was improved urban property.

The author is of the opinion that more than 14 per cent of the total value of rural property in Payne county is composed of unimproved property. The conjecture is based on the author's observation, in driving throughout the county, that considerably more than 14 per cent of the tracts are unimproved. However, the previous analysis showed no significant difference in assessment ratios between improved rural and unimproved rural property. This lack of significance could have been in part due to an inadequate sample size, but a value judgment by the author leads him to believe that probably the two groups are being assessed at about the same rate. If this is, in fact, the case

then the relative amounts of improved and unimproved rural property would not substantially affect the total assessment ratio.

The proportions of improved urban and unimproved urban properties probably are a reasonable approximation of the true proportions for the county's urban areas, but data are not available to either confirm or deny the statement.

Of the total sample of all properties 18.0 per cent of the confirmed value was rural property while 82.0 per cent of this total was urban property. When the total was broken down into the four respective groups 2.5 per cent of the total value of confirmed sales was unimproved rural, 15.5 per cent was improved rural, 6.4 per cent was unimproved urban, and 75.6 per cent was improved urban property.

The county tax records do not show actual sales values of property. Only the assessed value is recorded. Therefore, in order to compare the sample data to total county data the relative percentages of the different types of properties must be expressed as percentages of assessed value rather than confirmed market value.

When the data were processed in this manner rural properties were found to be composed of 16.6 per cent unimproved and 83.4 per cent improved property. Of the sample of urban properties, 1.8 per cent was unimproved and speculative land and 98.2 per cent was improved urban property. The small percentage that unimproved urban property and speculative land was of total assessed value was due to the extremely low assessment rate on this type of property.

When all properties in the sample data are combined the total assessed value was composed of 13.3 per cent rural and 86.7 per cent

urban property. When divided into the four groups the total assessed value was 2.2 per cent unimproved rural, 11.0 per cent improved rural, 1.6 per cent unimproved urban, and 85.2 per cent improved urban property. Let us see how this distribution compares with Payne county as a whole.

Payne County

The very strong possibility that urban property had been over-represented and rural property had been under-represented in the assessment ratio indicated by the sample became a very real problem. This possibility could not be assumed away as easily as was the previous problem concerning improved and unimproved urban and rural properties. In an effort to obtain additional valid data the tax rolls of Payne county were divided into rural and urban property. After this division was made it was found that the assessed value of all locally assessed real property in Payne county was 25.1 per cent rural and 74.9 per cent urban property. This verified that the sample had, indeed, over-represented urban property and under-represented rural property. Since total county figures come from the tax rolls they represented assessment values and would compare to the assessed values of the sample of 13.3 per cent and 86.7 per cent for rural and urban property respectively. It has been shown previously, however, that rural property was assessed at a lower rate than urban property. Therefore, if the actual market value of all properties in the county were used the rural property would make up an even larger percentage of the total locally assessed real property in the county. In order to find a more

accurate estimate of the true percentages of rural and urban properties, these percentages were corrected for this difference in their assessment ratios.[1] After this correction was made rural property represented 32.6 per cent of the total while urban property represented 67.4 per cent. These figures compare to the sample figures of 18.0 and 82.0 per cent for rural and urban property respectively.

Corrected Total Assessment Ratio Means

Now that a better estimate of the relative amounts of rural and urban property in the county is available, the total assessment ratio means can be corrected to give a more accurate estimate of the true assessment ratio. The uncorrected weighted assessment ratio was 18.3 per cent. After it was corrected it became 17.4 per cent. The uncorrected unweighted assessment ratio was 19.4 per cent. After it was corrected it became 18.7 per cent.[2]

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[1]The following formulas were used.

$$S_{ci} = \frac{S_d \cdot A_c}{A_d}$$

$$R = \frac{S_{cr}}{S_{cr} + S_{cu}}$$

$$U = \frac{S_{cu}}{S_{cr} - S_{cu}}$$

where S_d = Sale value from data
A_d = Assessed value from data
A_c = Assessed value from county records
S_{ci} = Estimate of Sale value of all property in ith group
i = r (rural) or u (urban)

R = Per cent of rural property

U = Per cent of urban property

[2]The following formula was used for this correction
Corrected total assessed ratio = (Au) (U) + A_r (R)

where - A_u and A_r = assessment ratio for urban and rural
U = per cent urban
R = per cent rural

When the unweighted mean is corrected in this manner however, it loses its property of being unweighted. It becomes weighted by the relative importance of rural and urban properties on a market value basis. To remain unweighted it would have to be corrected by using the numbers of rural and urban properties in the county, not the value of these properties, and the actual numbers are not available.

Even though this correction doubled the percentage of rural property it resulted in less than a one per cent change in the total assessment ratio value. This would imply that this value is fairly stable.

An interesting by-product of the previous analysis was an estimate of the total market values of rural and urban real property in Payne county for the year 1963. Total rural property was estimated to have a market value of $54,048,828 and all urban property was estimated to have a value of $111,950,500 for a total of all locally assessed real property in the county of $165,999,328.

Tax Share

Previous analysis has shown that about 32.6 per cent of the market value of all properties in Payne county is rural property and about 67.4 per cent is urban property. Results from county records show, however, that of all taxes paid in Payne county, rural areas paid 20.7 per cent and urban areas paid 79.3 per cent. This inequality is due in most part to the unequal assessment ratios.

CHAPTER III

HOMESTEAD EXEMPTION AND ITS EFFECTS

Oklahoma State law provides that:

> All homesteads in the State shall be assessed for taxation
> the same as other real property therein, except that each home-
> stead, as defined in this act, shall be exempt from all forms of
> ad valorem taxation to the extent of one thousand ($1,000.00)
> dollars of the assessed valuation thereof....[1]

A $1,000 exemption granted homesteads, when passed in 1937, was

intended to help home owners by giving them a tax deduction not per-

mitted other property owners. It was justified on the ability to pay

principle just as the progressive income tax and other progressive

taxes are justified. However, the homestead exemption is different

in one respect. It not only reduced assessed values, it completely

removed all of the property tax burden from some individuals. An

individual whose total assessed value falls below $1,000 pays no

part of the expenses of local government. Yet he receives all the

benefits provided by his local government just as non-exempt prop-

erty owners do. The expenses of local government, therefore, fall

on fewer people with each carrying a larger tax burden than would be

necessary without homestead exemption. As demands on local government

increase to provide such things as better schools and other community

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[1]Oklahoma Statutes, 1941, Title 68 par. 34.

facilities, more revenue must be obtained to meet these demands. Tax
assessment values are increased but slowly and then only when the fair
market value of the property increases. Therefore, any substantial
increase in revenue usually comes from an increased tax levy rather
than an increased tax assessment. The home owner claiming homestead
exemption whose property has an assessed value of less than $1,000 is
not affected by this tax increase since his property is non taxable.
The non-exempt property bears all the burden of increased local gov-
ernment expenses. Both those paying property taxes and those not
paying property taxes receive benefits from the new facilities. Con-
sequently, a law which was orginally passed with all good intentions
has ballooned into a social injustice.

Several things have been proposed by different individuals and
groups as a means of correcting this injustice. Among these sugges-
tions have been (1) to remove homestead exemption entirely, (2) to tax
one half of the first $2,000, and (3) to exempt the second $1,000 rather
than the first $1,000. The third suggestion would have the same effect
as a regressive tax over the range from $1,000 to $2,000, i.e., as
property values go up tax rates go down. For example, property with an
assessed value of $1,000 would pay the same amount of total taxes as
property assessed at $2,000; therefore, the lower value property would
be paying more than its proportionate share of taxes. This type of
tax is frowned on by society in this country, therefore, it will not
be considered further. The following discussion will partially analyze
the merits of the first two suggestions as they might affect Payne
county.

General Information

Before the detailed analysis is presented some general information about Payne county is desirable. Payne county had 7654 properties which claimed homestead exemption in the year 1964.[2] Of these 1758 or 22.6 per cent were rural properties while 5896 or 77.4 per cent were urban properties.[3] The properties claiming homestead exemption had an average deduction of $984.19 with rural having an average of $983.71 and urban with an average of $985.59. This tells us several things. First, that there is little difference in the exemptions permitted rural and urban properties. The large value which is very close to $1,000 also implies that a large number of these homestead exempt properties must have had an assessed value of something over $1,000. This value of 984.19 is considerably greater than the state average of $894.20.

Effect of Removing all Homestead Exemption

From county records[4] it was calculated that 26.0 per cent of the total assessed value of all real property was exempt from taxes because of homestead exemption. This compares to 22.3 per cent for Oklahoma as a whole.[5] Rural property had 23.8 per cent of total assessed value

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[2]Biennal Report, p. 233.

[3]The Biennal Reports division of rural and urban property was adjusted to figures obtained from local records.

[4]This was not a sample, this was total figures for Payne county.

[5]Biennal Report, p. 171, 240.

exempt while urban property had 26.7 per cent.[6] It is interesting to note that urban property has a larger percentage exempt even though the total assessed value for urban property includes all business property except public service companies. County tax revenues would therefore be increased by this 26.0 per cent if presently exempt property were taxed at the going tax rate.

In the year 1964 Payne county was taxed at an average tax levy of $60.60 per $1000 of assessed value. Without homestead exemption the same amount of taxes could be raised with a levy of $44.83 per $1000 of assessed value or a reduction in the levy of $15.77 per $1000 of assessed value.

When the data used in the study were analyzed it was found that 17.0 per cent of the total assessed value of the urban property[7] was exempt due to homestead exemption. This compares to 26.8 per cent for the entire county. This reasonably would be expected since homesteads probably sell less frequently than other property and the data were taken from property sales.

Effect of Taxing One Half of First Two Thousand Dollars

The second alternative for a more equitable homestead exemption law is to tax one half of the first $2,000 of assessed value and tax all of assessed value over $2,000. This would have the effects of a

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[6] The difference between these figures and those published in the Biennial Report exists because the Biennial Report includes personal property and public service companies.

[7] Homestead exemption information was not available for rural property.

progressive tax and would insure that all property owners would pay some tax. This tax would be progressive since the first $2,000 would, be taxed at one half the rate of all value over $2,000.

Some difficulty was encountered in computing this alternative. Total county information such as was used in the previous alternative was not available. Therefore, the data from actual sales were used. However, these data were biased in that only 17 per cent of the assessed value was exempt while the county as a whole showed 26 per cent of the assessed value exempt due to homestead exemption. The problem arose of how this could be corrected. The following assumptions were made. (1) All improved properties had the potential of being eligible for homestead exemption if the purchaser chose to live on the property. (2) All improved properties in the study, rather than just homestead exempt property, could be used to give a better estimate of total county conditions. This would give a larger sample and hopefully more accurate results. Final results could then be corrected to existing conditions to give a meaningful analysis. The author felt justified in making these assumptions since data from both sources had similar characteristics.

Comparison showed that if all improved urban properties in the sample data had claimed homestead exemption an average deduction resulting from homestead exemption would be $971.29. Properties actually claiming homestead exemption had an average deduction of $962.63. The figure for all improved urban properties is closer to the true county average of $984.19. Of the sample of 136 improved urban properties studied, 59 or 43.4 per cent actually claimed homestead exemption.

Ten of these 59 exempt properties, 16.9 per cent had assessed values of $1,000 or less.[8] Of the total 136 improved urban properties 21 or 15.4 per cent had assessed values of $1,000 or less. Because of these similar characteristics all improved properties were used without fear of extreme error.

The analysis was conducted in the following manner. One thousand dollars, or the entire amount whichever was less, was deducted from the assessed value of each improved property in the sample in order to find a taxable value of the property. For example a property assessed at $1500 would have $500 of taxable value after the deduction. A different taxable value for the same property was then computed by deducting one-half of the first $2,000. For example, the same $1500 property would now have $750 taxable value. A $2,000 property would have $1,000 taxable value. This would mean a $250 increase in taxable value on the $1500 property. This was done for all improved properties The differences were summed and expressed as a decimal of the total beginning values. For the one $1500 property this would be .167 (250/1500). This showed how much increase in taxable revenue could be expected from a change in homestead exemption laws if all properties were permitted to claim homestead exemption. However, all properties do not claim this exemption, therefore this figure was corrected. In order to do this the reduction in taxable assessments because of the $1,000 deduction was computed from the sample. For example, the

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[8]This is contrary to the study in Pottawatomie county which showed that 60 per cent of the property claiming homestead exemption was assessed at $1,000 or less. Sharp, Nam, p. 14.

$1,500 property had a .667 reduction (1000/1500) because of the exemption. Improved urban property for the sample showed a .355 reduction in taxable assessments. Previous analysis showed, however, that homestead exemption caused a .267 or 26.7 per cent reduction in taxable assessments for urban property in the county. Therefore, only .754 (.267/.355) of the calculated change in taxable property, due to the change in homestead exemption law, would actually take place.

This procedure showed a 7.9 per cent increase in revenue from urban areas would result from a change in homestead exemption laws. Rural areas showed on 8.8 per cent increase in revenue. When these were weighted by the per cent of rural and urban property an 8.1 per cent increase resulted for the entire county. For Payne county, at the present tax levy,[9] this would mean an increase in revenue of $105,481.

This would imply a significant increase in revenue could be obtained through a change in homestead exemption laws. This per cent increase would be even larger in counties which are not growing rapidly. i.e., areas in which very few new houses are being built. Revenue would increase as the per cent of home owners increases. Per cent increase would also be higher in counties which have a lower assessment ratio.

Based on the foregoing analysis it is the opinion of the author that elimination of all homestead exemptions is probably the most equitable solution for all persons concerned. It has the potential

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[9]$60.60 per $1,000 assessed value.

of increasing local government revenues up to 25 per cent, with a con-
stant tax levy, and more fairly distributes the tax burden.

However, if this is not politically or socially feasible, a change
in law to exempt one-half of the first $2,000 would be a good alterna-
tive. It could increase revenues by a significant amount and would be
much more equitable to all persons than the present law.

If the present homestead exemption law is to remain, it is im-
portant to note that the lower the assessment ratio the more unequit-
ably the tax burden is distributed. A more equitable distribution
could be achieved by raising the assessment ratio and lowering the
tax rate enough that the total county revenue would not change. This
concept will be explained in more detail in the following chapter.

It is interesting to note the economic advantage the homestead
exemption law gives a potential home owner. Assume two individuals
are considering the purchase of the same house. The first is buying it
to rent. The second is buying it as a home. Both consider its rent
value to be the same. One considers rent as an income; the other
considers living in the house a savings of rent payment. Providing
the house has an assessed value of over $1,000 the person living in it
would be eligible for homestead exemption of $1,000. Assuming the local
property tax rate to be $60 per $1,000 assessment value; the
person who is buying the house to live in would pay $60 per year less
taxes on the property than the person buying the property to rent. If
this $60 is capitalized at 5 per cent interest, it indicates that the
person buying the property to live in would be economically justified
in paying $1,200 more for the property than the other individual. The

author does not say if this is good or bad only that this condition
exists with homestead exemption.

CHAPTER IV

EFFECTS OF UNIFORM ASSESSMENT

The previous chapters have shown some inequalities do, in fact, exist between different types of properties. This raises the question of what would result if these inequalities were removed? The analysis will consider three different aspects: (1) the possible change in the tax revenues resulting from uniform assessments; (2) the possible change in the property values which would result from uniform assessments; (3) the possible change in land use because of uniform assessments.

Change in Tax Revenue

In order to analyze changes in tax revenues which would result from uniform assessments initial conditions had to be chosen. It was decided to use the weighted assessment ratio mean as representative of existing conditions. This gave each property its relative importance in the aggregate assessed value and, therefore, would give a better estimate of the true change in county revenues under uniform assessments. Since no significant differences existed in the assessment ratio between improved and unimproved rural properties these groups were combined and weighted mean for all rural property was used. Urban property was analyzed in its separate categories of improved

urban property and unimproved urban property.

A recent ruling (July, 1965) by the Oklahoma Tax Commission has set a 20 per cent assessment ratio as a minimum value and the Commissioner has told all counties which have assessment ratios below this value to increase their assessments to this standard. Because of this ruling it was decided to see how tax revenues in Payne county would be affected if all assessment properties were equalized at 20 per cent of the market values.

In order that all properties be assessed at the 20 per cent level, the assessment of rural property had to be increased by 6.5 per cent from 13.5 to 20 per cent.

Improved urban property already assessed above the 20 per cent level at 20.6 per cent was reduced by 0.6 per cent. Unimproved urban property and speculative land was originally assessed at 4.6 per cent; therefore, to correct this to 20 per cent this group had to be increased by 15.4 per cent.

When these equalizations were made the results showed that a standard 20 per cent assessment ratio for all properties in the county would, at current tax rates, increase county revenues from taxes of real property by 16.7 per cent or $217,353. This was with the tax levy remaining constant at $60.60 per $1,000 assessed value. Of this increase in county revenue, $163,062 or 75 per cent came from rural property with $81,310 or 37.4 per cent coming from unimproved urban property. Changing improved urban property to a 20 per cent ratio reduced revenues by $27,010, a decrease of 12.4 per cent. Taxes on rural property increased 48.5 per cent and on unimproved urban

property 335.8 per cent. Taxes on improved urban property decreased
3.0 per cent.

Table III summarizes the changes in property tax income at various
assessment ratios, including the changes occurring with a 20 per cent
ratio.

Let us examine what happens with a given change in assessment
ratio. If the current ratio is high then each one point change in the
ratio will have relatively small effect in assessed value. For example,
if the current ratio is 30 per cent and was raised to 35 per cent, the
maximum ratio allowed by law, the increase in assessed value would
amount to only about 17 per cent. But if the current ratio is 15 per
cent and was raised to 20 per cent then the increase in assessed values
would amount to 33 per cent. At a given tax rate, therefore, tax
revenues would increase by approximately the same per cent as the
assessed value.[1]

In reality the actual increase will be something larger than the
calculated value. This is because of the homestead exemption effect
on taxes. If, initially, 25 per cent of the assessed value of all
property is exempt through homestead exemption then tax revenues are
reduced by 25 per cent. However, a much smaller percentage of the
change in assessed value will be exempt. This is because most prop-
erties eligible for exemption have already claimed the maximum amount
of exemption permitted. For example, if a $20,000 property has an
assessment ratio of 20 per cent, the assessment value of this property

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[1]Exactly the same if the increase did not affect the value de-
ducted for homestead exemption.

TABLE III

CHANGES IN TAX REVENUE IN PAYNE COUNTY DUE TO CHANGE IN ASSESSMENT RATIOS*

Assessment Ratio Equalized at:	Revenue from Rural		Revenue from Improved Urban		Revenue from Unimproved Urban		Total Increase in Revenue		Per Cent increase over original revenue	Per Cent increase due to the last 2 point change in ratio	Per Cent increase due to the last 2 point change in assessment without Homestead Exemption
	% of total increase	$ increase in revenue	% of total revenue	$ increase in revenue	% of total increase	$ increase in revenue	% of total increase	$ increase in revenue			
20%	75.022	$163.062	-12.427	-$27,010	37.405	$81,301	100	$217,353	16.744	-	-
22%	58.088	212,974	16.867	61,840	25.045	91,827	100	366.641	28.245	9.851	12.936
24%	50.954	262,886	29.207	150,690	19.839	102,343	100	515,929	39.745	8.968	11.454
26%	47.022	312,798	36.009	239,540	16.969	112,879	100	665,217	51.246	8.230	10.277
2 point change with Homestead exemption**	33.344	49,912	59.516	88,850	7.051	10,526	100	149,288	-	-	-
2 point change without Homestead exemption	32.560	65,507	62.208	125,158	5.232	10,526	100	201,191	-	-	-

*At a tax levy of $60.60 per $1000 for all properties
** Homestead exemption at 26% of assessed value

would be $4,000. If this property were eligible for homestead exemption it would receive a $1,000 deduction. Therefore, 25 per cent of the assessed value would be exempt. If the assessment ratio were increased to 21 per cent the assessed value would increase to $4,200. The $200 increase in assessment value would all be subject to taxation since the maximum amount of exemption already would have been claimed. Consequently it can be shown that if 25 per cent of the assessed value were exempt, all the increase in assessed value would be taxed.

The increase in taxes due to an increase in assessment ratio will therefore be some value larger than the one calculated. For Payne county it will fall somewhere between the values given in the last two columns of Table III.

It should be noted that as assessment ratios get increasingly larger the percentage increase in revenue due to a given change in assessment ratios becomes increasingly smaller. Also, as the assessment ratios get larger the percentage of new and total revenues coming from homestead exempt property get larger since a larger percentage of the change in assessment is taxable.

<center>Possible Change in Property Values</center>

Assuming a tax increase cannot be shifted by the owner, as taxes paid on property go up net revenue to that property goes down.[2]

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[2]It is very difficult for the owner of rural property to shift taxes since most rent is on a share crop basis and all taxes are paid by the landlord.

Consequently if property is purchased on the income producing ability
of the property, the value of the property will decrease. How much
the value of the property will decrease will depend on the tax rate,
the per cent the assessment ratio is increased, and the capitalization
rate. As an example assume a tract of farm land has a market value of
$100 per acre. It is presently assessed at 15 per cent of its market
value or $15 per acre. The county assessor wishes to equalize all
property at a standard assessment ratio of 20 per cent. Consequently
he increases the assessed value to $20 or 20 per cent of the market
value of the property. This is an increase in assessed value of $5 or
a 33 per cent increase over the previous assessed value. If the tax
levy were assumed to be $60.60 per $1,000 of assessed value, then this
would increase taxes by 30.3 cents per acre ($.0606 x $5). This means
that the revenue from each acre will now be 30.3 cents less than before
the change. If the land value is determined by the income producing
ability of the land, then the value of the land would decline because
of this decline in income. If the farmer expects to get 5 per cent
return on his investment in land this would mean the value of the land
will decline by $6.06 per acre ($.303/.05). The land is no longer
worth $100 per acre but rather $93.94 per acre, a decrease in land
value of 6.06 per cent. The assessed value of the land however re-
mains at $20. Therefore, the true assessment ratio is 21.3 per cent
(20/93.94), rather than the suggested standard rate of 20 per cent.

This example demonstrates two important concepts. First an in-
crease in taxes can substantially affect land prices. In the example,
a 5 per cent increase in assessment ratio caused a 6.06 per cent

decrease in land values. At this value a quarter section of land

valued originally at $16,000 would loose $969.60 in market value and

would be worth only $15,030.40 after the increase in taxes. Second

in an effort to equalize assessment ratios of different properties a

tax assessor may "over-shoot" his mark if he increases assessments by

the full amount desired. A large number of tax assessors will be

faced with this problem as a result of the recent ruling by the Okla-

homa Tax Commission requiring certain counties to correct rural or

urban, or both rural and urban properties to a standard 20 per cent

assessment ratio. Therefore, a general equation was developed to aid

these men in the difficult task of reaching the desired assessment

ratio.

The equation is as follows:

$$AAR = \frac{DAR \quad I + (L) \ (PAR)}{I + (DAR) \ (L)}$$

where:

ARR = actual assessment ratio to be used
PAR = Present assessment ratio
DAR = Desired assessment ratio
  I = Interest rate or capitalization rate
  L = Tax levy per dollar of assessed value.

When this formula was applied to the previous example it was found

that an actual assessment ratio of 19.024 would give the desired asses-

sment ratio of 20 per cent after the secondary effects of changes in

land value took place. It should be noted that the larger tax levy

and the smaller capitalization rate will result in a larger decrease

in land values and a smaller actual assessment ratio.

The same analysis would hold true in urban property which had a

rent income which was used to determine market value. If the property

had an assessment ratio above 20 per cent and it was reduced to 20

per cent the property would increase in value.

Although unimproved urban property does not generally have a

yearly income associated with its ownership, changes in taxes have

basically the same effect. The revenue from this type property is de-

layed into a future time period and is accumulated in the form of in-

creased property value. Therefore, the owner does in fact have a

revenue from this type property.[3] This revenue must be equal to or

greater than the revenue which the owner foregoes because his capital

is tied up in unimproved property rather than being invested in some

alternative investment. When taxes are increased on a piece of this

property the owner incurs a cost which reduces his net future returns.

For example, suppose an unimproved lot has a market value of $1,000.

If it is assessed at 5 per cent of its market value, approximately

the assessed value of unimproved lots in Payne county then with an

increase in the ratio to 20 per cent, the land will drop in value

from $1,000 to $853.68. The preceding formula shows the actual as-

sessment ratio to be used would be 17.07 in order to reach the desir-

ed 20 per cent assessment ratio.[4] This says that after the change in

taxes that an individual can only pay $853.68 for the property if he

expects to receive a 5 per cent return on his investment after ex-

penses are paid.

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[3]In order to be entirely correct this future revenue should be
discounted to present value in order to find the true revenue from
the property.

[4]At a tax levy of $60.60/$1,000 assessed value.

It should be noted that this procedure is relevent only when the property is to be held over a period of years. The purchaser of unimproved urban property buying for development purposes generally is not concerned with the amount of present taxes. This does not affect his price offer since taxes will change immediately upon development. The amount of taxes are revelent only as they affect holding cost of the property.

Changes in Land Use

Uniform assessment ratios, most likely, directly affect land uses in only one use area, that of unimproved urban property and speculative land. In this area taxes could greatly affect land use and under certain conditions might be used as an effective means of forcing development of urban property.

Throughout the United States most cities of any size have large quantities of land laying idle both inside and at the periphery. This land is seldom used for any practical purpose when it is in this undeveloped stage. These undeveloped lots and tracts are generally unsuited for agricultural purposes because of their size or location, but the owner is not yet ready to develop them for urban use. These lands are held in this form basically for two reasons. The value of the land is appreciating very rapidly and the cost of holding it is relatively low. Very little direct control can be exercised over the value appreciation of the land, but the cost of holding it can be greatly influenced by the tax structure. By increasing the cost of holding the land, taxes can indirectly have some affect on the increase in land

value. The extent to which land use can be controlled or changed
depends on how fast the land is appreciating in value. If value is
appreciating very rapidly, the taxes paid on the land may be of little
importance in forcing it into higher use. However, if land is ap-
preciating in value at a moderate rate the taxes paid on the property
can determine whether the land will be held for future sale, offered
for immediate sale, or developed. The point at which property will be
sold for development will occur when the rate at which the land is in-
creasing in value becomes less than the sum of the desired returns on
investment plus the annual cost of holding the property.

For example, consider the previous illustration of an unimproved
urban lot. The lot initially had a market value of $1,000 and an as-
sessment ratio of 5 per cent. Assume the lot is appreciating in value
at a rate of 6 per cent per year. Because of his opportunity cost the
property owner requires a return of 5 per cent on his investment. If
he does not receive this return, the property will be sold and the
money invested elsewhere. At a tax levy of $60.60 per $1,000 assess-
ed value he will pay $3.03 per year taxes. At this tax rate, taxes
amount to .03 per cent of the market value of the property. There-
fore, his total cost of holding the property in 5.03 per cent of the
market value. He is receiving a return of 6 per cent therefore, he
will hold the property for future sale. If, however, the assessment
ratio is increased to 17.07 per cent in order to get the desired effect
of a 20 per cent assessment ratio the taxes would increase from $3.03
to $10.35. In this case taxes would amount to 1.035 per cent of the
original market value. The total cost of holding the property would

become 6.035 per cent or more than the annual increase in land value. If the owner is not willing to take less than a 5 per cent return on investment he will sell the property.

The value of the property for development purposes would remain at $1,000 since the developer would not be concerned with present taxes. However, the value of the property to the present owner or other persons who would hold the property for speculated purposes would fall to $853.68. Therefore, the owner would sell the property to be developed. The same analysis holds for land which is appreciating at a much faster rate if the owner happens to demand a higher return on his investment.

If the assessment ratio of all unimproved properties were increased simultaneously some difficulties might arise. All properties cannot be developed at one time. Therefore, the properties with the lowest appreciation rate would be the first to sell for development. This is often property within a developed area. The market value of this property often is high, but the appreciation rate is generally lower than fringe areas because the property has already appreciated in past years to almost a stable market value. The increased taxes consequently will affect these areas most. Since speculative profits are likely to be smaller in these areas the land will be sold for development. Good development sites then can be purchased in the urban area at a more reasonable price, which may lead to lower land prices in fringe areas. Consequently, a higher assessment ratio on undeveloped lots should cause an urban area to develop from the inside out rather than in a haphazard pattern which wastes so much land. In most cases the lots in the most highly developed part of the metropolitan area will be the

first to develop.

Tax Rate

Most of this presentation has been concerned with assessment values and assessment ratios. Tax rates were held constant while assessment values were changed. In this way the affects of changes in assessment value on tax revenue could be observed. A brief consideration of tax rates will now be considered.

Tax rates are determined in an area by the demands on local government. Each year an estimate is received from each branch of local government and schools of how much revenue will be needed for the following year's operations. These are combined to give an estimate of needed revenue for all government services in that area. During this same time period the county assessor is revising his assessments of property to determine how much property is subject to tax. Then the needed revenue is devided by the net assessed value of all property to determine the tax rate.

As assessment ratios of certain properties are increased in an effort to equalize assessment ratios of all properties, the total taxable value in an area increases.

With a higher value of property subject to taxes a lower tax rate would be required to raise a given revenue. Therefore, an increased in taxable value does not necessarily increase the total taxes collected. In stead, equalizing assessments merely distributes the burden more equitably among property owners.

An increase in assessed value, therefore, will permit one of two

alternatives. It will permit a lower tax rate on all property or it will permit more money to be collected for the operational expenses of the local government. A combination of the two is also possible.

Oklahoma statutes prohibits a unit of local government, from going into debt for more than 5 per cent of its total assessed value. Therefore, an increase in assessment ratios of under-assessed property, such as unimproved lots, would increase the amount of indebtedness that could be incurred. This may be extremely important in localities which are developing very rapidly. Such areas may have large immediate costs associated with rapid development such as providing adequate water, sewage, streets, and schools. However, many such areas currently may have a relatively low total assessed value. This might be particularly true if unimproved property is under-assessed since often in such areas a larger than normal proportion of the property is unimproved. It is quite easy for an area of this type to reach the maximum debt limit. If assessment values of under-assessed unimproved tracts were increased the owners of this type property should not complain, since the enhancement of their property values because of public improvements may very well be greater than for improved lots. Even after the increase they would not be paying any more than their equitable share of taxes.

The higher cost of holding unimproved lots would force, or at least encourage, more rapid development. This would mean that the new public improvements would be used more efficiently in a shorter time period. As the property developed, taxable assessments would increase even further which would increase tax revenues. This would

enhance the ability of the area to pay off the bonds which were voted in order to provide these services.

Any increase in tax rates necessary to provide new facilities must be voted by the people through a bond issue. The higher the assessment ratio the greater the amount of taxes collected with a given increase in the tax rate. Generally the developers and owners of this unimproved property will be wanting to add these services. Therefore, if they must pay considerably higher taxes because of the equalized assessment ratio they will take a more objective look at the actual need for these improvements.

CHAPTER V

THE ACCURACY OF REVENUE STAMPS

Since federal revenue stamp values were used in similar studies
to represent the market value of property, it is of interest to check
the accuracy of this approach. If this approach is found to have been
reasonably accurate, it will give support to studies using this approach
to market value. Also it might avoid the necessity of spending extra
time and money in getting sales confirmed when future studies are con-
ducted. If, however, the revenue stamp approach is not accurate it
will emphasize the importance of getting sales values confirmed if a
good estimate of actual conditions is desired.

The accuracy of revenue stamps is also of interest to groups of
individuals other than those doing detailed research. The professional
appraiser often uses revenue stamp values on recorded deed to deter-
mine the recent sale value of properties comparable to that which he
is appraising. The values of these comparable properties are used to
help determine the market value of a particular piece of real estate.
A potential buyer of a piece of real estate might use revenue stamp
value in an effort to determine what the property sold for in the
previous sale.

Individuals concerned with determining average sales values of
different types of land within a particular region may use revenue

stamps to get these values. There are many other groups and individual for which this information would be helpful.

In order to perform this part of the study, 13 of the 209 sales in the study had to be removed because of insufficient information about the mortgage. The public records were checked to determine if any existing mortgage was transferred with the sale. If a mortgage was involved the deed was checked to determine if it stated the value of the mortgage when the transfer took place. If such information was not available the sale was removed from this study. If a value was stated this value was added to the stamp value and this sum was compared to the confirmed sale value of the property. Of the 13 sales removed from the study, the public records clearly showed that a mortgage did exist on the property as of the date the deed of transfer was recorded but the mortgage balance could not be determined.

Stamp Value Minus 250 Dollars

Since theoretically there is a possible $500 error in using the stamp value,[1] it is only natural to try to minimize this error. To do this the logical solution is to take the midpoint of this maximum error or $250. This $250 is subtracted from the revenue stamp value of the property. If this procedure is followed one might rationally assume that about one-half the sales would be for less than this corrected value and about one-half would be for more. Then in the total

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[1] The author uses the term stamp value in the following discussion to mean the maximum sale value of the property when $1.10 of stamps represents $1,000 of sale value.

analysis those sales which fell below would cancel those sales which were above and the final result would be a reasonable approximation of the aggregate values. This procedure was used in all studies, in which the revenue stamp value was used, with which the author is familar. However, it shall be shown later that this seemingly logical solution is in reality not the best approach.

When a ratio of confirmed sale velue to stamp value minus $250 was calculated[2] all urban property had a confirmed sale value of 102.9 per cent of the corrected stamp value. Improved urban property had a confirmed sale value of 102.3 per cent of corrected stamp value while unimproved urban property had a sale value of 109.6 per cent.

In the group of all rural properties the stamp value ratio was 103.7 per cent, with improved rural having a confirmed value of 102.8 per cent of the corrected stamp value and unimproved rural having a value of 109.3 per cent. When both rural and urban properties were combined, the confirmed sale value of all properties was 103.0 per cent of the corrected stamp value.

Maximum Value of Revenue Stamp

If, however, the maximum value of the revenue stamp is used rather than this value minus $250 a better estimate of true sale of

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[2] Stamp value ratio $= \dfrac{\Sigma C_i}{\Sigma (SV - 250)_i} \times 100$

where C_i = confirmed value in i^{th} group

SV = stamp value

i = group (rural, urban, etc.)

the real estate is obtained. This is due in part to an extremely strong tendency for real estate to sell in round figures of multiples of $500.

When this procedure is used all urban property had a confirmed value of 100.2 per cent of the maximum stamp value. Unimproved urban had a confirmed value of 101.7 per cent of the stamp value while improved urban had a value of 100.4 per cent.

The data show the strong tendency for property to sell in round figures of multiplies of $500. Of the 38 unimproved urban properties, 17 of them sold for exactly the same amount as was shown by the maximum revenue stamp value. This amounted to 44.7 per cent. Although they did not sell for the amount shown by the revenue stamps, three additional properties did sell in round figures of multiples of $500. This resulted in 20 of 38 or 52.6 per cent of unimproved urban property selling in multiples of $500.

Of the 123 improved urban properties 80 or 65.0 per cent sold for the same value as was shown by the revenue stamps, and 91 or 74.0 per cent sold in round figures. When all urban property was considered 97 of the 161 properties or 60.2 per cent sold for the amount shown by the stamps and 111 or 68.9 per cent sold in round figures of multiples of $500.

When maximum revenue stamp value was used in computing stamp value ratios for rural property, the confirmed value of the property was 101.3 per cent of the stamp value. Unimproved rural had a value of 103.9 per cent while improved rural had a value of 100.9 per cent of the stamp value.

Of the 10 unimproved rural properties, 4 or 40 per cent sold for the same value as was recorded on the stamp and 7 or 70 per cent sold in round figures. Nineteen of the ·24 improved rural properties, or 79.2 per cent, sold for maximum stamp value while 20 properties, or 83.3 per cent, sold in round figures. Of all the rural properties 23 of the 34, or 67.6 per cent, sold for maximum stamp value and 27 properties, or 79.4 per cent, sold in multiples of $500.

Rural and urban properties combined sold for 100.4 per cent of their maximum stamp value. Of the 195 total properties 120, or 61.5 per cent, sold for the same value as was shown by the revenue stamps while 138 or 70.8 per cent sold in round figures.

Amount of Stamps

The actual amount of the revenue stamps on the deed was compared to the amount required by law. Of the 195 sales used in the study of revenue stamp values, 11 sales, or 5.6 per cent, had more stamps than were required by law. Thirty six or 18.5 per cent had the correct amount of stamps on the deed required by law but the sale value was not equal to the stamp value. With the 120 sales or 61.5 per cent which sold for the same amount as shown on the revenue stamps this gave a total of 80.0 per cent of the deeds which had the correct amount of revenue stamps. The remaining 28 or 14.4 per cent of the deeds fell short of the minimum amount of revenue stamps required by law. Of the original sample of 208 sales 13 or 6.25 per cent had to be discarded because of insufficient mortgage information. Table IV gives a summary of the distribution of revenue stamp values.

TABLE IV

DISTRIBUTION OF REVENUE STAMP VALUES FROM DATA

Group	More stamps than needed		Correct value of stamps		Less stamps than needed			Removed due to insufficient mortgage data	Number in stamp value sample	Number in total sample
	≤ -1000	> -1000 ≤ -500	> -500	Identical value	< 500	≥ 500 < 1000	≥ 1000			
Improved	3	5	20	80	10	1	4	13	123	136
Unimproved Urban	0	1	14	17	4	0	2	0	38	38
Total Urban	3	6	34	97	14	1	6	13	159	174
Improved Rural	0	1	2	19	1	0	1	0	24	24
Unimproved Rural	0	1	0	4	2	2	1	0	10	10
Total Rural	0	2	2	23	3	2	2	0	34	34
Total Urban and Rural	3	8	36	120	17	3	8	13	193	208

Conclusions

It has been shown that even though theoretically the stamp value minus $250 should be the best estimate of sale value, in reality the maximum value shown by the revenue stamp is a better estimate of this value. However, the stamp value minus $250 is still a fairly accurate estimate of this value for aggregate analysis since it is only about three per cent larger than desired.

There is an extremely strong tendency for real estate to sell in round figures. Of all the property studied 70.8 per cent of these properties sold in multiplies of $500. As would be expected the percentage of property which sold in round figures increased as sale values increased. Also, the accuracy of the revenue stamps increased as the sales value of the property increased.

In all groups the stamp value ratio was greater than the theoretical limit of 100 per cent. This was due to two factors: There was a large percentage of the property which sold for the maximum stamp value. In addition to this 14.4 per cent of the sales did not have enough stamps on the deed due to a lack of understanding of the law or for other reasons.

When the revenue stamp approach is used by either a research or another individual for estimating sale value of property, he should be very careful to check the public mortgage records thoroughly before using these figures. With this done, he apparently can place considerable confidence in values indicated by the revenue stamps.

CHAPTER VI

SUMMARY

This thesis has attempted to present an objective analysis of
real property assessments in one county of Oklahoma. It should be of
use to any one interested in ad volorem taxation, not just those in
Payne county. Most of the ideas and concepts presented probably apply
to all counties in Oklahoma and perhaps to some in other states. While
the conclusions reached in this study will not necessarily apply to all
counties, many can be adjusted and corrected to represent local condi-
tions of other areas.

The study of the assessment ratio in Payne county showed a
significant difference in the assessed value between the following:
(1) Improved urban property was assessed at a higher rate than unim-
proved urban, and at a higher rate than improved rural property.
(2) Urban property was assessed at a higher rate than rural property.
(3) Property in Cushing was assessed at a higher rate than improved
properties in other areas of the county.

No significant difference existed in the assessment ratio between
improved rural and unimproved rural properties or between homestead
exempt and non-exempt properties.

It was estimated that 32.6 per cent of the market value of all

property in Payne county was rural property while 67.4 per cent was urban property.

The mean weighted assessment ratio for all property was 17.4 per cent. In all cases the weighted assessment ratios were lower than the unweighted assessment ratios. This implied that lower value properties had a higher assessment ratio than the higher value properties. Apparently, an assessor tends to average property values.

If all homestead exemption were removed, Payne county could increase county revenues by 26.0 per cent. Oklahoma as a whole could increase county revenues by an average of 22.3 per cent at a given tax rate.

A change in homestead exemption laws to exempt one half of the first $2,000 rather than the present law which exempts all of the first $1,000 would increase revenue in Payne county by 8.1 per cent. It is likely this increase would be even greater in many other counties which have lower assessment ratios. Counties which have a relatively large percentage of their homesteads assessed at less than $1,000, would, if half the first $2,000 of value were exempted, result in a greater number of properties which are now tax exempt subject to a tax levy. Data show the average value of exempt property in the State as a whole is less then that of Payne county.

The author feels that removing all homestead exemption would be the most equitable solution for correcting the present tax inequity existing with the present law. However, changing the law to exempt one half of the first $2,000 would do much to mitigate this injustice. If the present law is to remain, a more equitable distribution of the

tax burden could be achieved by increasing the assessment ratios of property.

If all properties in Payne county were assessed at a uniform rate of 20 per cent, taxes on rural properties would increase by 48.5 per cent, taxes on unimproved urban properties would increase by 335.8 per cent, and taxes on improved urban property would decrease by 3.0 per cent. This is assuming that the weighted assessment ratios in the study are representative of the true assessment ratios and these calculated ratios are corrected to the 20 per cent level. If these corrections were made county revenues would be increased by 16.7 per cent.

Higher taxes can lower the value of property assuming the property is purchased on its income producing capacity. The change in property value will be equal to the dollar change in taxes divided by the interest rate.

In trying to equalize assessment ratios of different properties an assessor must consider the possible change in property value because of the increased taxes. If he does not consider this change he may over-assess the property. The equation given in Chapter IV will help him achieve his objective of uniform assessments.

Changes in land use because of increased taxes probably will occur only on unimproved urban properties. Property held for speculative purposes will sell for development when the taxes on the property plus interest on investment become greater than the annual value appreciation of the land. Uniform assessment ratios which would raise assessment ratios of unimproved urban property would help encourage urban areas to develop from the inside out. The unimproved properties

in the more developed areas would appreciate at a slower rate since
they have already approached their urban use value. This would cause
these properties to sell first since they would become the first to
reach the point where appreciation equals taxes plus interest on in-
vestment.

The maximum value shown by the revenue stamps is a better estimate
of the sale value of the property than is the revenue stamp value minus
$250. All the properties in the study sold for 100.4 per cent of the
sum of their maximum stamp values. The study showed there is a very
strong tendency for properties to sell in multiples of $500. Of all
properties sold, 61.5 per cent sold for the same value indicated by
the maximum value of the revenue stamp and 70.8 per cent sold for
multiples of $500.

If public mortgage records are checked thoroughly and properties
without adequate mortgage information removed from the analysis, the
maximum revenue stamp value can be used as a good estimate of the sale
value with considerable confidence.

SELECTED BIBLIOGRAPHY

Ahmend, Mahammed M. A. An Economic Evaluation of Farmland for Tax Assessment, Tulsa County, Oklahoma. Ph.D. dissertation, Oklahoma State University, May, 1964.

Oklahoma Statutes, 1941, Title 68. Oklahoma City: 1942.

Oklahoma Tax Commission, Oklahoma Ad Valorem and Entangible Personal Property Tax Laws. Oklahoma City: 1960.

Oklahoma Tax Commission, The Sixteenth Biennial Report, July 1, 1962 to June 30, 1964. Oklahoma City: 1964.

Sharp, Ansel M. and Duck Nam. A Study of the Property Tax in Pottawatomie County, Oklahoma. Business Extension Service, Oklahoma State University. Stillwater, Oklahoma: July 1961.

Son, James Vernon. A Study of the Ratio of Assessed Value to Sale Prices of Farm Real Estate, Washita County. Unpublished report, Oklahoma State University. Stillwater, Oklahoma: August, 1964.

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