AN EXAMINATION OF SPATIAL VARIATION IN TAX ASSESSMENTS WITHIN OKLAHOMA

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PREFACE

This study is concerned with the examination of the spatial equity of ad valorem tax and its administration in Oklahoma. A comparison is made between a house value frequency distribution based on values estimated by the owners and found in the 1970 Census of Population and Housing, and a house value frequency distribution based on appraisal values for tax assessment purposes. The basis for this segment of the study is to compare tax-based property value information to an alternative type of property value information. A further examination of the spatial equity of the ad valorem tax is made on the basis of five selected tax criteria.

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CHAPTER I

INTRODUCTION AND IDENTIFICATION OF THE PROBLEM

Introduction

In the State of Oklahoma, ad valorem tax is a tax levy on real and personal property. It is only a local revenue source and is the most important revenue producer for local government units. It is levied on the assessed value of real and personal property as listed on the official county tax rolls. The jurisdiction of the governmental organizations for taxation purposes and the definition of taxable property is stated in the State Constitution and Statutes.

Of the two types of property covered by ad valorem taxation, the levies on real property or real estate result in the greater revenue receipts. The study at hand is concerned primarily with the real property category of ad valorem taxation.

The tax on real estate has been the subject of considerable debate and the object of a vast amount of criticism. Students of public finance have utilized a broad range of criteria in evaluating various methods of raising revenue.

The following is a list of some that are frequently used:

1. Equity: Is the intent of the tax laws administered fairly to all members of the tax-paying public?
2. Certainty: Is the tax administered without capriciousness?
3. Consistency between governmental entities in the economy of taxation: Is there consistency between governmental entities in the cost of administering the ad valorem tax?
4. Consistency in assessments between various jurisdictions: Is there consistency between counties in the levels of the average assessment ratios?
5. Social Expediency: Does the revenue program operate well within changing economic circumstances?

Strong criticism, such as the following has been voiced against property tax: "Except for productivity, general property taxes have no strong theoretical support."[1] For further emphasis, the following statement is submitted:

> When subjected to the practical tests of ease and economy of administration and fairness of administration, general property taxes look even worse than they do in theory.[2]

The criticisms of property tax have stimulated an in-

terest in examining this method of taxation in greater depth. It is the aim of this study to examine, in detail, selected aspects of the ad valorem tax and its administration that have an influence on its spatial equity.

Examples of previous research dealing with the study of ad valorem taxation will be reviewed along with various conceptual and explanatory works. Incorporated in the study will be an inspection of property tax administration in Oklahoma which will serve as an orientation to a comparison of the value of sample owner-occupied homes as estimated by the owner to the value of the home based on tax assessments in Stillwater, Oklahoma. Finally, an examination will be made of the spatial and temporal variability of the property tax administration in Oklahoma on the basis of the five previously stated tax criteria.

Previous Studies

A limited presentation of the administration of ad valorem tax was made in the book Municipal Government and Administration in America by Jewell Cass Phillips.[3] Although Phillip's treatise is devoted primarily to municipalities, the indicated chapter remains apropos to the examination of the administration of property tax on the county level of government. This is indicated by the municipal property tax

situation in Oklahoma. The municipalities in Oklahoma do not support a separate agency for the collection of property taxes which have been levied by the city. The collection of the property tax and its administration is conducted by the Office of the County Tax Assessor. After the collection of all property taxes, the monies belonging to the various governmental subdivisions, such as municipalities, paving districts, school districts, and counties, are apportioned according to their share of the total receipts. The governmental units utilize the counties' assessments of property values and the counties' established mechanism for tax administration. Notwithstanding various technicalities and statutory limitations, the separate governmental units, in general determine their own respective tax levies. For example, an individual could conceivably be under the taxation jurisdiction of a paving district, a sewer district, a school district, a municipality and a county. The realm of purpose for property taxation that many of these subdivisions are limited to is for the retirement of capital debts.

Phillips provides a definition and brief description of the administration of the general property tax and indicates weaknesses in its theoretical, administrative, and legal aspects. Arguments for alternatives to various weaknesses are presented.

Another treatise on the general property tax was incor-

porated in the book Taxation and Public Policy, edited by Paul Studenski.[4] The general method by which the property tax operates was described. A number of shortcomings was brought out and potential improvements in the administration of the tax were suggested.

A broad spectrum of various types of taxes and their administration, including the general property tax, was reviewed in the book Your Taxes by William V. Schultz.[5] The approach to the examination of ad valorem tax was similar to the two previously mentioned works. The procedural aspects of the tax were described with weaknesses indicated and improvements discussed and suggested.

A number of studies have been conducted dealing with ad valorem taxation in a specific geographical area. A study by Ansel M. Sharp and Duck Nam entitled A Study of the Property Tax in Pottawatomie County, Oklahoma, investigated the property tax and its relationships with assessed property in that county of Oklahoma.[6] This study was broken down into two parts:

> Part I involves an examination of property tax assessments, levies, collections, exemptions, and an investigation of the relationship of property tax revenue to the financing of municipal school districts, and county government services.
>
> Part II entails an assessment ratio study, i.e., a study of the relationship of assessed valuations of property and appraised valuations.[7]

The study by Sharp and Nam is an extensive work devoted strictly to the examination of property tax. In Part II of the study, the assistance of professional real estate appraisers was secured.

A study was conducted in Payne County, Oklahoma dealing with the examination of real property tax assessments entitled, An Analysis of Real Property Assessments in Payne County, Oklahoma, by L. A. Parcher and Paul T. Dyke.[8] The objectives of the study were to:

1. Compare assessment ratios of rural and urban, improved and unimproved, and homestead and rental properties.

2. Determine the effect of homestead exemption on tax revenues and the effects which a change in the homestead exemption law might have on revenues and on taxpayers.

3. Analyze the consequences and effects of uniform assessments on tax revenue, property values and land use.[9]

In this study the indication of property values to which the assessed values were compared were obtained from either the buyers or sellers of property recently involved in a transaction which was recorded in the public records.

> Information concerning assessment values of both land and improvements, stamp value (federal tax stamp), mortgages, name of grantor, name of grantee, legal description of property and homestead exemption deductions were obtained from public records for each sale. The buyer or seller was then contacted in order to learn the actual sale value of the property.[10]

It is possible to express an assessment ratio of a given piece of property by determining the percentage the assessed value is of the actual market value of the property. According to Parcher and Dyke's study, about sixty percent of all improved urban property assessment ratios in Payne County fell within the range of 14.56 to 24.28 percent; approximately twenty-nine percent of the properties in this category had assessment ratios higher than 24.28 percent.

The Stillwater Education Association conducted a tax study entitled, Study of Assessed Valuations on Real Estate in Stillwater, Oklahoma.[11] One of the purposes of the study was to investigate: "Some of the reasons that our local schools are starved for funds in operational budget and building needs."[12] The data in this study were compiled by an abstracting firm in Stillwater. The data were recorded for individual property sales during a single year with the sale price, the assessed value and the assessment ratio examined.

In 1965, the Stillwater League of Women Voters conducted a Payne County Fiscal Study.[13] This study encompassed an examination of Payne County fiscal management, the collection and dispersal of county funds, and county districting. The League of Women Voters pointed out:

> According to our study, there is a great variation in the relation between assessed value and real sale value of real properties within both the

county and the City of Stillwater.[14]

It was indicated in this study that of three groups of property values the average assessment ratios were: $0 - $10,000, 20.93%; $10,000 - $20,000, 19.26%; and $20,000 and over, 13.94%. According to the League of Women Voters:

> This seems to indicate that the principle of ad valorem tax, which is taxation according to value, is not strictly applied due to the inequity of assessed valuations.[15]

A data sheet was obtained from the Stillwater League of Women Voters which provided information dealing with several aspects of ad valorem taxation. The sheet provided information dealing with assessment ratios by housing additions within the City of Stillwater. Among other types of data, a frequency distribution was also presented which indicated the numbers of properties having particular assessment ratios within the total group of properties sold in a given year's time.

United States Representative Ken Hechler (R), of West Virginia expressed before the House of Representatives a concern for inequitable practices in property tax assessments throughout the country. Representative Hechler indicated a hope that factual information dealing with current tax assessment practices brought to the attention of lawmakers and the public would be instrumental in eventually leading to the amelioration of this problem. On the basis of concern

for this problem, he provided for a tax assessment study to be entered into the Congressional Record. The study was entitled "The Property Tax: A Study of Inequality of Valuation and Assessments in Texas" and it was compiled by a group of students working for Ralph Nader.[16]

A general outline of the methods by which property is assessed for taxation in Texas was presented initially in the study. The primary focus was an examination of assessments on property which had been leased for the purpose of exploiting petroleum or for speculation on petroleum production.

The difficulty of ascribing a value to oil and gas property is emphasized by the following method of evaluation. The calculation of the future value of the property takes into consideration such aspects as the estimated size of the petroleum reserves, the rate of production, cost of production, and the price of the product. The present value of the property is obtained by discounting the future value on the basis of prevailing interest rates and such other factors as those mentioned above. A comparison was made between the value of oil and gas leases as determined by an independent appraisal firm hired by a local governmental unit for tax assessment purposes and the valuation of the property based on future revenue projections of the petroleum industry itself. It was found that the independent appraisal firm

judged the value of the property at, generally, fifty-six percent less than the values based on the petroleum industry's projections.

The Oklahoma Tax Commission, which is an agency of the state government established to tax privately owned public utilities, to assist counties in their administration of the ad valorem tax and to promote the greater uniformity of property tax administration between counties, has compiled a number of statistical reports on the ad valorem tax and its administration. These reports have been concerned with such aspects as the average assessment ratios of different types of property, the average assessment ratios of property within different counties, the cost to different counties of administering the tax and the variation between counties in their tax bases.

Discussion of the Ad Valorem Tax in Oklahoma

In the State of Oklahoma the office of tax assessor is an elective office. Title 68, Section 2401 of the Oklahoma Statutes enabled the creation of the Office of the County Tax Assessor and states the method whereby the office will be filled:

> Creation of Office of County Assessor. There is hereby created the Office of County Assessor in and for each county in this state, which office shall be filled at the same time and in the same

> manner as other county offices. The term of any person elected to such shall be two (2) years and until his successor is elected and qualified, and shall begin at the first Monday in January following his election.[17]

Basically, the qualifications for eligibility to hold the elective office of County Tax Assessor is to be a qualified voter in the county in which the individual is running for office.

Obviously, the method of installing the tax assessor in office and the qualifications for eligibility may be viewed with mixed emotions. The election of the tax assessor by popular vote has basic "grass-roots" appeal to many of the electors. It is contended that elective governmental offices tend to be more responsive to the people. In contrast, an appointive officer would tend to be less receptive to the wishes of the people due to a type of isolation resulting from greater employment security.

Realistically, the electing of tax assessors tends to make them receptive to political pressures from various quarters. In modern politics the financial expense of campaigning has some impact on which individuals may actually run for office. In such circumstances, campaign contributions may be of great importance.

In some areas, including parts of Oklahoma, the political party to which a candidate belongs may have a great bearing on whether or not an individual is elected. The

Democratic Party in Oklahoma has historically tended to be dominant in state politics. With strong party sentiment, many individuals have, and continue to, vote a straight ticket, i. e., voting for all candidates in the same party running for the respective elective offices. As a result of these considerations, political candidates would logically tend to pay close attention to party affiliation and party internal power structure.

The duties and powers of the County Tax Assessor are clearly indicated in paragraphs b and c of Title 68, Section 2435 of the Oklahoma Statutes. The law states:

> (b) The County Assessor shall assess and value all property, both real and personal, which is subject to assessment by him and shall place a separate value on land and improvements in assessing real estate; and he shall do all things necessary, including the viewing and inspecting of property, determine the accuracy of assessment lists filed for him, discover and assess omitted property, and determine the taxable status of any property which is claimed to be exempt from ad valorem taxation for any reason.
>
> (c) In the performance of his duties, the County Assessor, or his duly appointed and authorized deputy, shall have the power and authority to: (1) go upon any premises and enter any business building or structure and view the same and the property therein, and to view, inspect, or appraise any property located within his county; (2) examine any person under oath in regard to the amount or value of his property.[18]

The acquisition and maintenance of a staff by the County Assessor is indicated in Title 68, Section 2438. The following is part of that section:

> Each County Assessor shall be allowed such regular or special deputies as may be necessary to perform the duties of such County Assessor. The number of deputies and the salary or compensation of each deputy shall be fixed by the County Assessor, with the approval of the Board of County Commissioners. It shall be the mandatory duty of the Board of County Commissioners and County Excise Board to allow the County Assessor sufficient deputies at salaries large enough to enable the County Assessor to secure competent help so that he will be able to perform the duties required of him by law in an effective manner.[19]

All property, both real and personal, is taxable in the county, school districts, and municipal subdivisions, except for those types exempted and defined by law from ad valorem taxation. There are basically two categories of property that is not subject to ad valorem taxation: (1) traditionally non-taxable property such as that belonging to religious organizations and governmental units or agencies; and (2) property which is taxed by some other governmental entity, like the Oklahoma Tax Commission at the state level which is concerned with property such as railroads, and privately owned public utilities.

All property suitable for ad valorem taxation within the county must be listed with the County Tax Assessor. All personal property must be listed indicating the value of the property each year; however, the owner of real estate is not compelled to list that type of property each year. The owner has the option of listing or of letting stand the prior listing on the tax rolls. The County Clerk, who is the recorder

of deeds, keeps the County Assessor informed of real estate transactions and the law requires that owners of real estate must keep the Assessor informed of any new improvements.

The assessment of property is the placing of value on that property for taxation purposes. The assessments of property in Oklahoma are a fraction of the actual cash value of the property. The state law requires that property for the purpose of ad valorem taxation cannot be assessed for more than thirty-five percent of its true cash value. The following exerpts from Section 2427 of Title 68 of the Oklahoma Statutes indicates the limitations of an assessment:

> (a) All taxable personal property, except intangible personal property, shall be listed and assessed each year at not to exceed thirty-five (35) percent of its fair cash value, estimated at the price it would bring at a fair voluntary sale.
>
> (b) All taxable real property shall be assessed annually, at not to exceed thirty-five (35) percent of its 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, but need not be listed with the County Assessor.[20]

The tax levy is the amount of money paid in tax per unit of assessed value of the taxable property. The levy is generally expressed in terms of mills which are thousandths of a dollar or tenths of a cent. The amount of taxes paid on a particular piece of property is dependent upon the assessed value of the property and the mill levy. The following formula is submitted in order to clarify the previous-

ly discussed relationships:

Real Value of Property	Assessed Value of 35% of Real Value	25 Mill Levy at Tenths of a Cent	Tax Paid
$10,000 x .35 =	$3,500	x .025	= $87.50

The mill levy is determined within certain legal constraints by the County Excise Board. Each unit of government in Oklahoma on the county level and below, such as the county, school districts, cities, townships, special districts, etc., submit their individual budgets to the excise board of the county in which they are located. The resulting activities of the excise boards were pointed out by Sharp and Nam:

> It is the duty of the excise board to change, to approve, and to set the property tax levy for the various local units of government within the limitations fixed by law.[21]

The excise board consists of three residents of the county of which the board serves with one member appointed by the county commissioners, one by the district judge, and one by the Oklahoma Tax Commission.

The excise boards are limited to levying a maximum of

fifteen mills to be used for financing the operating expenses of various components of local government. It is possible for additional levies to be placed on taxable property within school districts up to fifteen mills upon request of the local school board. There is a four mill levy on all taxable property in the county, the monies from which are divided among the school districts based upon their average daily attendance. The county voters may choose to have an emergency five mill levy imposed upon themselves in order to assist the schools within the county.

Still other levies may be passed by the voters in the various local governmental units for the purpose of paying off debts incurred for capital improvements.

The members of the excise board are also members of the County Board of Equalization. The duties of the County Excise Boards are stated in Title 68, Section 2459 of the Oklahoma Statutes. The following is an excerpt from that law:

> The County Board of Equalization shall hold sessions, commencing on the fourth Monday in April and ending not later than the first Monday in June, for the purpose of equalizing, correcting and adjusting the assessment rolls in their respective counties of the state, to conform to the fair cash value of the property assessed, as defined by law.
>
> It shall be the duty of said Boards, and they shall have the authority,
>
> (a) to equalize, correct and adjust the asses-

> sed valuation of real and personal property, by raising or lowering the valuation of the property, real or personal, of any taxpayer, to conform to the fair cash value thereof, as defined by law;
>
> (b) to add omitted property; and
>
> (c) to cancel assessments of property not taxable.[22]

If a taxpayer feels the assessments on his property are in some way unfair, he may file a formal complaint with the County Board of Equalization. The County Board of Equalization will hold hearings and pass judgment upon complaints. Appeals resulting from the decisions of the County Board of Equalization are taken to the district court and any appeals resulting from the decisions of the district court are taken to the state supreme court.

The Oklahoma Tax Commission prescribes various methods of obtaining assessments as an aid to county assessors. It also provides for the availability of professional appraisers who, upon special occasion, can advise county assessors on the value of certain types of property.

During a personal interview, the Payne County Tax Assessor described the method which was used extensively in that county for determining the assessed value of houses for ad valorem tax purposes.[23] This method consisted in part of obtaining the number of cubic feet contained within the structure. This number was then used to multiply a money value of $.50 if the house had primarily a wood exterior or

$.60 if the house had primarily a brick veneer. Twenty percent was deducted from the money value obtained from the previous multiplication. This was done, according to the County Assessor, because inflation had caused an increase in the market price of the house without changing the true value of the property. Obviously, the rationale for the twenty percent deduction is questionable. Finally, the remainder was divided into half and the quotient was utilized as the assessed value of the house. The only major variation in this method was the addition of arbitrary values to the basic assessed value on the basis of the existence of accessories such as a fireplace or a patio. The city lots in general were also given an arbitrary value. Lots in the standard size range around 150 ft. by 50 ft. were routinely assessed at $100 regardless of location within the subdivision or within the city. The assessed values of lots varying in size from the average were approximately based on the proportion of variation from the average size such that a lot double the standard size was assessed at $200, a lot half the standard size was assessed at $50 and so forth.

In examining property assessments within an area, there are obvious difficulties in obtaining the type of data or information that is suitable to the desired type of analysis. In their study, Parcher and Dyke were interested in finding the assessment ratios of various types of property in Payne

County, Oklahoma. The method they utilized in obtaining these ratios was that of examining the sales of property occurring between November, 1961, and August, 1963. There were 288 sales recorded in the Payne County public records during that time. The buyers or sellers were contacted to obtain the sale price of the property. A number of sales were rejected by the researchers for the following reasons:

> Any sales 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 288 sales in the original sample, 208 had the sales price actually confirmed and designated as a bona fide transaction by either the grantor or grantee.[24]

For a more detailed examination, Parcher and Dyke divided the sales according to four types of categories: improved urban, unimproved urban, improved rural, and unimproved rural properties.

Sharp and Nam indicated two major problems involved in studying real property assessment ratios which are indicated below:

> The first is the problem of obtaining an adequate index of "market value," and the second is the problem of selecting a "representative" sample of property which is to be studied.[25]

It was pointed out that the logical method of determining the value of property is to ascertain what it could be exchanged for on the market. Sharp and Nam indicate, nevertheless, that there is considerable difficulty in utilizing

the market approach for the evaluation of property. There are no reliable records kept by either the state or county that indicate the actual price paid for a given parcel of property. They did indicate that interviews of either buyers or sellers could be used to gain an indication of the market value. They also indicated that appraisals could be made of the property under consideration; however, this method tends to be subjective in that professional appraisers may differ considerably in the estimates of the current value of a given parcel of property. In addition, the use of professional appraisers is very expensive. The advantage of appraisers over the other methods of obtaining property values is that a much better sample can be drawn for examination.

Information gathered in the 1970 Census of Population may provide another type of aid in the examintion of property tax assessment. The following question appeared in the Short Census Questionnaire used for mail-out/mail-back enumeration:

> If you live in a one-family house which you <u>own</u> <u>or are buying</u> - What is the value of this property (house and lot) would sell for, if it were for sale?
>
> Less than $5,000
> $5,000 to $7,499
> $7,500 to $9,999
> $10,000 to $12,499
> $12,500 to $14,999
> $15,000 to $17,499
> $17,500 to $19,999
> $20,000 to $24,999

$25,000 to $34,999
$35,000 to $49,999
$50,000 or more

> If this house is on a place of 10 acres or more, or if any part of this property is used as a commercial establishment, or medical office, do not answer this question.[26]

In cities within which enumeration districts were delineated, the responses to this question were grouped by enumeration districts with the frequency of responses within each of the value divisions indicated.

Information on the tax rolls indicate the value of the land, the value of the improvements and whether the property has a homestead exemption. The owner-occupancy status is indicated by a homestead exemption appearing on the tax rolls.

The homestead is defined in Section 2406 of the Oklahoma Statutes. The following is an excerpt from that section:

> The term homestead, as used in Sections 2408 through 2419 of this code, shall mean and include the actual residence of a natural person who is a citizen of the State of Oklahoma, provided the record of actual ownership of such residence be vested in such natural person residing and domiciled thereon;[27]

People owning and living in their own homes are entitled to a homestead exemption which acts to reduce the tax load on that property. The following portion of Section 2407 of the Oklahoma Statutes indicates the value of homestead exemption to the homeowner:

> . . . and all homesteads in this state shall be assessed for taxation the same as other real pro-

> perty therein, except that each homestead, as defined in the preceding Section, shall be exempted from all forms of ad valorem taxation to the extent of one thousand ($1,000.00) dollars of the assessed valuation thereof, as hereinafter provided.[28]

If a homeowner is to receive the full $1,000 homestead exemption the home must not be used for any commercial purposes; however, homestead exemptions for less than $1,000 can be secured for residences partially utilized in commercial activity. The value of the exemption is indicated on the tax rolls; therefore, strictly residential owner-occupied dwellings can be detected.

With these aspects of the property tax and taxation records in view, it can be seen that a comparison is feasible between the census information and the actual tax assessments, provided steps are taken to make the two types of data compatible for comparison.

Procedure

The City of Stillwater, Oklahoma was divided into thirty census enumeration districts. The lines of division were drawn by the administrative officials of the census. In areas such as Stillwater where the conventional method of enumeration was used, the administration assigned each enumerator a specific enumeration district to canvass. An attempt was made to delineate the districts in such a way as

to ideally contain 250 housing units. In actuality, however, the number of houses may vary greatly between enumeration districts. In some cases, enumeration districts were subdivided. The enumeration districts and the various subdivisions were given an index number ranging from one to forty, which served in the data recording method of first count census information utilizing magnetic computer tapes.

One of the forms of data available, by enumeration district and which could be obtained on a computer read-out, were the frequencies of owner-estimated values of houses within specific value categories or value ranges.

The aim of the study was to compare the values of the owner-occupied houses as indicated on the census questionnaire with the value of owner-occupied houses as indicated by the County Tax Assessor in the year of 1970. A one to one comparison was not possible since the census information was recorded in frequencies and the value of designated individual houses in the enumeration districts were not available. A comparison between all the owner-occupied houses indicated in the census data and those indicated on the tax rolls would realistically be prohibited due to the large number of houses in a city the size of Stillwater. As a result, it was decided that both census and tax information corresponding geographically to sample enumeration districts would be utilized in the comparisons.

The census value frequency data from all enumeration districts in Stillwater were obtained from the appropriate computer tape. This information was transcribed on a table designed to indicate the number of the actual enumeration districts and such subdivisions as existed, their corresponding index numbers utilized in the computerized census recording method and the corresponding value frequency information. It was found that information was not available for one of the enumeration districts. As a result, that particular district was dropped from any further consideration. The enumeration districts were sequentially numbered from one to twenty-nine. The subdivisions of the enumeration districts were not considered separately but rather with the one district to which they actually belonged.

A random numbers table was utilized and six numbers corresponding to specific enumeration districts were selected from the group of numbers ranging from one to twenty-nine inclusive. The enumeration districts in Stillwater were officially designated by numbers running from twenty-two to fifty-one. As a result of the random selection, the enumeration districts with official census numbers 39, 43, 24, 32, 44, and 30 were utilized for examination.

After the sample enumeration districts were selected, the tax assessment information was then collected. This phase of the study involved a rather detailed process of

preparation and collection. The County Tax Assessor was contacted in order to obtain permission for examining the tax rolls. A later contact was made to obtain information concerning the method by which the tax assessments were recorded with respect to the location of the property within the city.

It was found that the assessment information was recorded in two different ways:

1. Assessment information dealing with lots and any associated improvements which were located within city subdivisions was listed by the respective subdivision.
2. Tax information dealing with lots and any associated improvements that were not located in subdivisions was listed by meets and bounds.

In the meets and bounds listings, the locations of lots were indicated by their relationships to other pieces of property of survey markers.

A map of the City of Stillwater with the locations of the enumeration districts outlined was used as a base map. From this map there was drawn a map of each sample enumeration district. An example of these maps is presented in Appendix A.

The boundaries of the enumeration districts were not necessarily conterminous with the city subdivision boundar-

ies. The Stillwater City Planning Department was contacted and permission was obtained to view the maps of the City's subdivisions. The locations of the sample enumeration districts were viewed with respect to the locations of the subdivisions. The locations of the boundaries of those subdivisions which were contained or partially contained within the sample enumeration districts were delineated on the maps of the housing subdivisions.

All lots within those parts of the subdivisions which were contained within the sample enumeration districts were further delineated on the sample enumeration district maps. The result of this procedure was that every lot within a sample enumeration district was delineated on the map and identified by the subdivision in which it was contained as well as by its number within that subdivision.

The boundaries of the meets and bounds lots which were located within any of the sample enumeration districts were delineated and the lot number indicated on the sample enumeration district maps. The City of Stillwater had numbered these lots and the same numbers were included with the lot identification contained in the tax rolls.

The completed maps of the sample enumeration districts provided the necessary information to indicate the limits of the group of lots contained in those units. The next step in the procedure was to collect the assessment information

from the tax rolls. Lists were made by subdivision or by meets and bounds of all the lots contained in the sample enumeration districts. The tax rolls for the subdivisions within or partially within the sample enumeration districts were viewed. Each of the lots that were entered on the subdivision lists were examined on the tax rolls for homestead exemptions. If full homestead exemption was indicated, the assessment values of the lot and improvements were entered on the list. In some cases lots that were delineated on the city subdivision maps were either further divided or combined into other types of property parcels. All lot segments that were property parcels or parts of property parcels and found in subdivisions were designated as some part of the lot of which they were a segment. As a result, all property encompassed by the subdivision list could be examined for assessment information.

The tax rolls containing the property parcels delineated by the meets and bounds information was examined. The lot numbers of meets and bounds lots appearing on the sample enumeration district list were looked up in the tax rolls. The assessment information was recorded for those lots and associated improvements for which full homestead exemptions were indicated.

Homestead exemptions must be filed by March 15, if they are to be valid during the year of filing. Any changes that

affect the homestead status of the property must be filed with the County Tax Assessor on or before the 31st of December of the year in which the change occurred.

The homestead exemption provides an incentive for any individual owning and occupying a house to file. Therefore, it appears likely that most houses that were actually owner-occupied in the period from December 31 through March 15 would have been listed on the tax rolls. There is a lag of about two weeks between the closing data for exemption filing and the official Census Day of April 1, 1970. As a result, a situation existed in which it was possible that houses that became owner-occupied during this lag period may have appeared in the census information and not on the tax rolls. There was another possibility that houses which may have changed from homestead status to non-homestead during the period from January 1, 1970 to March 15, 1970, could have appeared as owner-occupied on the tax rolls, but not indicated in the census information. The possibility existed for an individual to file a homestead exemption prior to March 15 and then change homestead status prior to April 1, 1970. It must be pointed out, however, that these conditions were only possibilities and there was no practical method of determining their occurrence.

The assessed values of all homes in the sample enumeration districts with a full homestead exemption were listed

according to their respective enumeration districts. There were eight home value categories within the census data and they were listed as table items on the computer tape. The categories were:

Less than $5,000

$5,000 to $9,999

$10,000 to $14,999

$15,000 to $19,999

$20,000 to $24,999

$25,000 to $34,999

$35,000 to $49,999

$50,000 or more

Due to the variability between the sizes of the ranges within the value categories adjustments were made in order to make the ranges more suitable for statistical examination. The first five categories were retained unchanged, but the remainder were grouped into a sixth category, which was made open-ended. As a result, all homes with values of $25,000 or more were placed in this category. A frequency table was established for each sample enumeration district, indicating the number of houses within each of the value categories.

According to state law, no property is to be assessed above thirty-five percent of its fair cash value; therefore, this value should ideally serve as an upper limit on assessments. The frequencies of house values within value ranges

corresponding to the six adjusted value categories indicated above were determined as if the assessments were actually thirty-five percent of true cash value. A comparison was made between the frequencies determined in this manner and the frequencies of the owner-perceived house values obtained from the census information.

The following steps describe in detail the methods used to obtain the frequency table of house values with assessments considered to be at thirty-five percent of true cash value for the area covered by each of the sample enumeration districts.

1. The limiting values, where applicable, of the six adjusted value categories containing the frequencies of the owner-perceived house values were multiplied by .35. The following is an example of that multiplication:

Less than 5,000	x	.35 = Less than $1,750
$5,000	x	.35 = $1,750
to		to
$9,999	x	.35 = $3,499.65
$20,000	x	.35 = $7,000
to		to
$24,999	x	.35 = $8,749.65
$25,000 or more	x	.35 = $8,750 or more

2. The products of the multiplication were then utilized as limiting values on assessed value categories. The assessed values were then placed in these categories with placement based on their relationship to the category limiting values. This procedure was used to economize time and effort through by-passing the necessity of converting all of the assessed values to their theoretical market values. An assessment value was placed in a given category if it was less than the upper value limit of the category and more than the lower value limit. For example, a home assessed at $1,630 would be in the value category of less than $1,750 because $0 < \$1,630 < \$1,750$ and a house assessed at $7,950 would be in the value category of $7,000 to 8,749.65 because $\$7,000 < \$7,950 < \$8,749.65$.

3. The value categories of the assessed values were converted back to true market value by dividing by .35. The frequencies within the respective converted value categories remained the same because the assessment values when divided by .35 would equal their theoretical market values. The following examples will serve to illustrate this point:

Less than $1,750	÷	.35 = Less than $5,000
$1,750	÷	.35 = $5,000
to		to
$3,499.65	÷	.35 = $9,999

$7,000	÷	.35 = $20,000
to		to
$8,749.65	÷	.35 = $24,999
$8,750 or more	÷	.35 = $25,000 or more

A house with an assessed evaluation of $1,650 would have a theoretical market value of $1,630 ÷ .35 = $4,567.14. If $0 < \$1,630 < \$1,750$, then likewise due to the consistent division by both the assessed value and the category limiting values the relationship in the converted value category would be the same such that $0 < \$4,657.14 < \$5,000$.

The County Tax Assessor of Payne County stated that property in that county is normally assessed at twenty percent of its true cash value. On the basis of this observation, a comparison was made between the frequencies of the owner-perceived house values and the frequencies of house values calculated as if the assessments were actually twenty percent of true cash value. For the purpose of comparison, frequency tables for the respective areas of each of the sample enumeration districts were developed with the assessment value frequency obtained in a method similar to that which was previously described. The only difference in the procedure was that the category limiting values were multiplied by .20 on the basis of assessments at twenty percent of true cash

value rather than at .35 percent.

Parcher and Dyke, in their study, found that about sixty percent of all improved urban property assessments in Payne County fell within the range of 14.56 to 24.28 percent of true market value. It was reasoned on the basis of Parcher and Dyke's study, as well as other studies, that assessments of urban residential property in Stillwater, Oklahoma below 14.56 percent of true market value would be too infrequent to be appropriate for examination in this study. The assessment value placed at 14.56 percent of the true market value was selected as the lowest value to be used in the comparisons. A frequency table for each area covered by the sample enumeration districts was developed utilizing methods similar to those previously described.

It was found that within some of the sample enumeration districts the number of owner-occupied houses indicated by the census information did not correspond to the number of owner-occupied houses found on the tax rolls. When this occurred, a near-average house value was determined for that particular enumeration district and the number of near-average values equal to the difference was added to the frequency table containing the fewer number of house values. If the census information indicated fewer owner-occupied houses than did the tax rolls, then a near-average house value based on the owner-perceived values was determined

for the enumeration district. Likewise, if the tax rolls indicated fewer owner-occupied houses than did the census information, then a near-average house value based on the tax assessment values was determined for that enumeration district.

A true arithmetical average for house values could not be determined because the house values had been recorded as frequencies within value ranges rather than as discreet values; therefore, a value that was near, but not equal, to the true average was used to equalize the aggregates of the frequency tables representing the same enumeration districts. The following steps, accompanied by hypothetical examples, outline the methods used to obtain the near-average home values:

1. The high limiting value of each value category, except the highest category, was multiplied by the frequency of values within that category.

High Limiting Value ($)		Frequency		Product ($)
4,999	x	5	=	24,995
9,999	x	10	=	99,990
14,999	x	20	=	299,980
19,999	x	10	=	199,990
24,999	x	5	=	124,995

2. The low limiting value of the highest value category was multiplied by the frequency of values within that category. This was done because there was no upper limit on the highest value category.

Low Limiting Value ($)		Frequency		Product ($)
25,000	x	1	=	$25,000

3. The products of the multiplication from each of the value categories of the entire frequency table was summed:

$	24,995
	99,990
	299,980
	199,990
	124,995
	25,000
$	774,950

4. The sum was divided by the total number of houses indicated by the sum of the frequencies in all cells of the frequency distribution. The result of the division was used as the near-average house value.

Sum of Products		Sum of Frequencies		Near-Average House Value
$ 774,950		51	=	$ 15,195

These procedures were followed in all cases in which it was necessary to equalize the number of house values recorded in the frequency table based on census information and frequency tables based on the tax assessment information.

Prior to statistical examination, the frequencies of values from all the sample enumeration districts were combined to form frequency tables of the combined or city-wide sample information. Four frequency tables were formed, one based on census-obtained information and three based on tax assessment information.

A comparison of the frequencies contained within the value categories of differently established frequency tables was conducted through the utilization of a multinomial hypothesis associated with the chi-square statistic. This type of test compares the observed frequencies within the value categories or frequency cells of a frequency distribution to the frequencies expected to appear in that distribution. The frequencies that appeared in the cells of the census-obtained frequency distribution served as the frequencies expected to appear in the tax assessment-based frequency distributions; therefore, tests were conducted to determine if significant

differences existed between the expected frequencies and the observed frequencies within the distributions.

The following procedure was used for testing the multinomial hypothesis for each of the three frequency distributions based on the tax assessment information:[29]

1. The frequency in each cell of the frequency distribution based on census information was determined. These frequencies served as the theoretical frequencies which were expected to be found in the frequency distribution based on tax assessment information. The statistical procedure compared the expected frequencies to the frequencies which were actually found in those frequency distributions.
2. The null and alternative hypotheses were stated as follows:

   H_0: There will be no significant difference between the expected frequencies and the observed frequencies.

   H_1: The expected frequencies and the observed frequencies will differ significantly.
3. An alpha-level of .05 was selected. This indicates that the null hypothesis is rejected five percent of the time when the null hypothesis is true.

4. The chi-square value for each of the distributions was calculated utilizing the following formula:

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

Where f_o = actual (observed) frequency for a given cell and f_e = expected frequency for that cell.

5. The degrees of freedom for the χ^2 value were determined. This was accomplished by subtracting one from the total number of cells in the frequency distribution. If the value of χ^2 was equal to or greater than the alpha-point at the previously selected level and at the appropriate degrees of freedom, then the null hypothesis was rejected and the alternative hypothesis was accepted.

Statement of Hypothesis

Assessment at thirty-five percent of the true market value is by law the maximum limit of valuation for ad valorem tax purposes. The assessments at or near 14.56 percent of the true market value would seem, based on the observations

of Parcher and Dyke, to be approaching the lower end of the spectrum of the assessment valuations. Their findings indicated that a definite minority of the assessments fell below this level. Conversely, they indicated that the majority of the assessments fell between 14.56 and 24.28 percent. The average assessment level would fall somewhere between these two values and definitely below thirty-five percent.

The value indicated by the assessor (twenty percent of true market value) was located between the range set by 14.45 and 24.28 percent. It seemed, due to experience in assessment activities, that the assessor's estimate would be reasonably accurate. This point of view was further reinforced by the findings of Parcher and Dyke. Therefore, it was hypothesized that no significant difference existed between the frequencies of the distribution based on the owner-estimated values and the frequencies of the distribution based on the assessments at twenty percent of the true market value.

FOOTNOTES

[1]Jewell Cass Phillips, Municipal Government and Administration in America (New York, 1960), p. 425.

[2]Ibid.

[3]Ibid., Chapter XVI, "Fiscal Organization and the Revenue Problem in American Municipalities," pp. 418-435.

[4]Phillip H. Cornick, "American Local Taxation," Taxation and Public Policy, ed. Paul Studenski (New York, 1936), pp. 81-93.

[5]William J. Shultz, Your Taxes (Garden City, 1938).

[6]Ansel M. Sharp and Duck Nam, A Study of the Property Tax in Pottowatomie County, Oklahoma (Stillwater, 1961).

[7]Ibid., Preface.

[8]L. A. Parcher and Paul T. Dyke, An Analysis of Real Property Assessments in Payne County, Oklahoma (Stillwater, 1966).

[9]Ibid., p. 2.

[10]Ibid., p. 3.

[11]The Stillwater Education Association, Study of Assessed Valuations on Real Estate in Stillwater, Oklahoma (Stillwater, 1947).

[12]Ibid., p. 1.

[13]Stillwater League of Women Voters, Payne County Fiscal Study (Stillwater, 1966).

[14]Ibid., p. 2.

[15]Ibid.

[16]Richard Mithoff, Jr., Project Director, "The Property Tax: A Study of Inequality of Valuations and Assessments in Texas," Congressional Record, E10093-103.

[17]Oklahoma Statutes Annotated, Title 68, Section 2401.

[18]Ibid., Section 2435.

[19]Ibid., Section 2438.

[20]Ibid., Section 2427. The taxation of intangible personal property has recently been repealed and therefore will not be considered in this study.

[21]Sharp and Nam, p. 7.

[22]Oklahoma Statutes Annotated, Title 68, Section 2459.

[23]It was found that assessment values obtained prior to 1971 were primarily determined through the use of the method described above under the direction of an individual other than the present tax assessor. The incumbant tax assessor has devised and initiated the use of a different method of value assessment that appears to be more responsive to locational and market considerations. This new method is described in Appendix C.

[24]Parcher and Dyke, p. 3.

[25]Sharp and Nam, p. 23.

[26]Data Collection Forms and Procedures, 1970, Census of Population and Housing (Washington, D. C., 1971) p. 22.

[27]Oklahoma Statutes Annotated, Title 68, Section 2406.

[28]Ibid., Section 2407.

[29]H. T. Hayslett, Jr., Statistics Made Simple (Garden City, N. Y., 1968). The statistical procedure in this chapter basically followed the methods described in this work.

CHAPTER II

RESEARCH FINDINGS

The following table, based on the census data, indicates the frequency of homes and corresponding proportion of the total sample in each of the value categories.

TABLE I

FREQUENCY AND PROPORTION OF HOMES IN VALUE CATEGORIES

Value in Dollars	0-5,000	5,001-10,000	10,001-15,000	15,001-20,000	20,001-25,000	Over 25,000
Frequency	9	75	194	181	91	135
Proporation*	.013	.110	.293	.264	.133	.197

*Rounded to nearest thousandth

The hypothetical frequencies expected to appear in the frequency distributions based on assessments were those indicated in the previous table (See Table I). Since the same number of observations was constant throughout the three

frequency distributions based on assessment information and that number was also equal to the number of observations in the census frequency distribution, the expected frequencies were the same. Therefore,

$$f_{e_1} = 9, \quad f_{e_2} = 75, \quad f_{e_3} = 194,$$

$$f_{e_4} = 181, \quad f_{e_5} = 95 \quad f_{e_6} = 135$$

The first test was conducted to determine if a significant difference existed between the expected frequencies as were indicated by the census information and the frequencies that were actually observed within the cells of the frequency distribution (See Table II), based on tax assessments at 14.56 percent of the true cash value.

TABLE II

FREQUENCIES OF HOMES IN VALUE CATEGORIES CALCULATED WITH ASSESSMENTS AT 14.56% OF MARKET VALUE

Value in Dollars	0-5,000	5,001-10,000	10,001-15,000	15,001-20,000	20,001-25,000	Over 25,000
Observed Frequency	0	100	79	173	150	183
Expected Frequency	9	75	194	181	91	135

The test was conducted in the following manner:

1. The null and alternate hypotheses were stated as follows:

   H_0: There will be no significant difference between the expected frequencies and the observed frequencies.

   H_1: The expected frequencies and the observed frequencies will differ significantly.

2. The chi-square value was calculated using the following formula:

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

   Where f_o = actual (observed) frequency for a given cell and f_e = expected frequency for that cell.

3. After substituting the appropriate values in the above equation, the value of χ^2 was found to be 141.17.

4 The number of classes was six; therefore, the degrees of freedom were five. With five degrees of freedom and an alpha-level of .05, the alpha-point value was 11.070.[1] The χ^2 value of 141.17 was greater than 11.070; there-

fore, the null hypothesis was rejected and the alternate hypothesis accepted.

Upon comparing the observed frequencies to the expected frequencies, it appears that the utilization of the low assessments at 14.56 percent of true market value resulted in a frequency distribution that was skewed toward the high home values. However, the distribution of the expected frequencies also exhibited a skewedness of the highest value category. The greatest difference between the two distributions was in the frequencies of homes in the $10,000 to $15,000 category. Neither of the distributions exhibited a high degree of symmetry, but the observed frequencies were even less symmetric than the expected frequencies.

The second test was conducted utilizing the previously described procedure to determine if a significant difference existed between the expected frequencies as indicated by the census information and the frequencies that were actually observed within the cells of the frequency distribution (see Table III), based on tax assessments at twenty percent of the true cash value.

The value of χ^2 was found to be 124.45 and the appropriate alpha-point was 11.070; therefore, the null hypothesis was rejected and the alternate hypothesis accepted.

The distribution based on the observed frequencies tended to be somewhat more symmetrical than the distribution

based on the expected frequencies. The greatest differences were found between the frequencies in the $5,000 to $10,000 category and over $25,000 category. It can be seen that the skewedness of the expected frequency distribution in the highest value category has a bearing on the contrasting aspects of the distributions.

TABLE III

FREQUENCIES OF HOMES IN VALUE CATEGORIES CALCULATED WITH ASSESSMENTS AT 20% OF MARKET VALUE

Value in Dollars	0-5,000	5,001-10,000	10,001-15,000	15,001-20,000	20,001-25,000	Over 25,000
Observed Frequency	17	140	222	175	83	48
Expected Frequency	9	75	194	181	91	135

The third test was conducted with the same procedure as before to determine if a significant difference existed between the expected frequencies as indicated by the census information and the frequencies that were actually observed within the cells of the frequency distribution (see Table IV), based on tax assessments at thirty-five percent of the true cash value.

TABLE IV

FREQUENCIES OF HOMES IN VALUE CATEGORIES CALCULATED WITH ASSESSMENTS AT 35% OF MARKET VALUE

Value in Dollars	0-5,000	5,001-10,000	10,001-15,000	15,001-20,000	20,001-25,000	Over 25,000
Observed Frequency	131	351	161	35	4	3
Expected Frequency	9	75	194	181	91	135

The value of χ^2 was found to be 3,005.13 and the appropriate alpha-point was 11.070; therefore, the null hypothesis was rejected and the alternate hypothesis accepted.

The frequency distribution based on the tax assessments at thirty-five percent of true market value was drastically skewed by extremely high frequencies in the two lowest value categories and extremely low frequencies in the two highest value categories. The unusually high χ^2 value resulted from the great difference between the observed frequencies and the expected frequencies.

There was a significant difference between the observed frequencies and the expected frequencies of the frequency distribution based on assessments at twenty percent of true market value. The tests further demonstrated that significant differences also existed between the observed frequen-

cies and the expected frequencies of the distribution based on 14.56 percent and the distribution based on thirty-five percent of true market value. The statistical findings of this study fail to support the research hypothesis; therefore, the hypothesis was rejected.

FOOTNOTES

[1]Clinton I. Chase, "Table V, Distribution of χ^2," Elementary Statistical Procedures (New York, 1967), p. 235.

CHAPTER III

DISCUSSION AND SPECULATION

It was found that the proportions of the value categories of the tax-assessment-based information in all three of the frequency distributions differed from the proportions contained in the census-based frequency distribution. There are a number of unanswered questions associated with both types of data dealt with in this study. The following are three alternative explanations for the differences in the proportions of the frequency distributions:

1. The estimates of the house values in the census information were basically correct and all three of the assessment ratios were at the incorrect level.
2. The estimates of the house values in the census information were basically incorrect and one of the assessment ratios was at the correct level.
3. The estimates of the house values in the census information were basically incorrect and all three of the assessment ratios were at the incorrect levels.

There was no method specified in the questionnaire or otherwise commonly utilized by which the home value estimates were established. It seems possible that some individuals could have been aware of the conditions of the real estate market and could have made reasonable estimates of the value of their homes. People who recently purchased homes would serve as examples of individuals that should have had relatively accurate ideas as to the market value of their property. In contrast, those people who have not bought recently and are not in contact with real estate conditions could conceivably have extremely inaccurate estimates. In addition, some individuals may have placed high monetary values on some aspects of their property which may have had, in actuality, little or no bearing on the true market value of their property. In this respect, sentimental attachments may have been considered in the perception of the market value of the property. Upon initial and unsubstantiated observation of the frequency distributions, it appears that if owner-perceived values were correct, then the assessment ratios would fall somewhere between fourteen and twenty percent. However, a ratio at this level would be contrary to the levels indicated by both the tax assessment studies referred to previously in this paper and the County Tax Assessor.

It may have been possible that many of the homeowners

were estimating the value of their property at levels as high or possibly higher than market value due to the particular set of benefits and utilities they perceived. This point of view is reinforced by the findings of a housing research project conducted by John M. Richards. The study entitled "The Significance of Residential Preferences in Urban Areas," was primarily concerned with the examination of consumer behavior revealed through the patterns of residential consumption. In the study the following observation was made:

> The evidence would seem to validate the supposition that consumers are seeking the three goals of maximum residential amenities (both natural and social attractions), accessibility (accessibility to desired locations), and non-residential income (that income that remains after paying residential rentals and travel expenses).[1]

The above conclusion tended to be supported by the findings of William Alonso in his study Location and Land Use. Alonso stated, with regard to the preference of household location, that: "The individual will try to maximize his satisfaction within the restraints of his income."[2] This statement indicated that an individual, in establishing a location preference for a household, would attempt to obtain the most satisfactory combination of (1) quanity of goods and services, (2) quantity of land and (3) distance from activity centers, the type of which being dependent upon socio-economic orientation, while remaining within the re-

straints of his income.

Alonso utilized the findings of an empirical study to support, in part, the development of a theoretical model to demonstrate the concept of economic equilibrium of the household in selecting a residential location. The study relied on information concerning the sales price of property rather than the assessment value. Alonso made the following statement indicating the reason that assessment information was not utilized:

> Assessed valuations have been purposely disregarded. It is a common misconception that an assessment constitutes a measure of the intrinsic value of land, while the sales price is subject to transitory vagaries. While it is true that lack of knowledge of the market or some unique circumstances may affect randomly the actual sales price of land, the assessed valuation is required by law, as a rule, to be a best estimate of a likely sales price (or a fixed percentage of that price). Thus assessed valuation is merely what the assessor's office thinks the land will fetch in the open market. This opinion is often affected by irrelevant considerations, and is frequently out of date.[3]

In an article by Percy E. Wagnor, a professional real estate appraiser, describing a method of appraising a single family-type house, it was stated that:

> The valuation of a single family home considers the ability of a property to provide the need for human shelter in an environment of social and economic desirability dictated by the will of the purchaser.[4]

Mr. Wagnor outlines, in the order of importance, ten considerations that should be taken into account in the ap-

praisal process. It seems significant that the two most important considerations in the process dealt with aspects of location. The following was indicated to be the most important consideration:

1. Neighborhood and its relation to city and national influences.

> The neighborhood and the influences which produce its physical, social and economic boundaries are the most significant of the influences which affect the value of a single family residence.[5]

The following was indicated to be the second most important consideration:

2. Site and its relation to the neighborhood and immediate environs.

> The appraiser must be aware of the many physical factors which affect the selection of a site. Nearness to schools, churches, arterial highways, shopping centers, and local shopping needs are considered in his analysis of desirability.[6]

It seems likely that many of the professional appraisers would be most concerned with a pragmatic approach to the appraisal of property. Such an approach would be based on contact with or close observation of the activities in the market and the sellers and, especially, the purchasers of real estate. These observations appear to further reinforce the argument that locational aspects of real estate have a strong influence on value.

The procedure utilized for determining the assessed

value of houses in Stillwater, as indicated by the previously stated formula, takes into account only the physical characteristics of structure. The lot assessment values were primarily determined arbitrarily and, like house values, no consideration was given to locational aspects of the property.

The value of land may vary greatly depending upon its location and usage or possible usage. Land used for residential purposes is generally of higher unit value than agricultural land. Likewise, commercially used land, in many cases, has a higher unit value than residential land.

The locational considerations affecting the value of a particular site are greatly dependent upon the type of activities intended for or conducted at that site. The set of considerations involved in the selection of an industrial site may contrast greatly with the set of locational considerations involved in the selection of a housing site.

To further compound the problem of examining locational considerations in the valuation of property, there may be competition between the various possible types of land usage. Restrictions such as zoning may produce artificially imposed deviations in land use and values. Therefore, ascribing a value to a particular property must take into consideration the purpose for which it is or could be used and then the locational relationships to activities which are of concern to its usage or potential usage.

There is a possibility that assessment ratios are not consistent throughout the value categories of homes. In general, the smaller types of homes on small lots may have relatively low true market values on the basis of physical structure and poor proximity to various desirable residential amenities. As the home values increase, the likelihood of desirable residential amenities being associated with location would also tend to increase. It is not likely that the more expensive homes would be built in undesirable locations due to the fear of low demand on the part of the builder. The relatively low demand would presumably have an effect on the market value and thereby possibly result in an inadequate return to the investment. People who could afford an expensive home based strictly on the physical aspects of the dwelling would also be more able and willing to pay for a desirable location.

When viewed from the standpoint of purely residential land usage, the market value of homes in the more expensive categories would reflect both the expense of the physical structure and the expense of a highly desirable location; whereas, the market value of less expensive homes would reflect the lower values of the physical structure and the less desirable location. If the assessment procedure was insensitive to locational aspects of the property cost, but sensitive to physical aspects of the property cost, the added

locational value of the more expensive homes would tend to go undetected. As a result, the assessment ratios for the lower valued homes would tend to be relatively higher than the ratios for the more expensive homes.

The tax assessor's office, being an elective position, may have an effect on the method by which assessments are established which, in turn, could possibly have a bearing on the disparity between assessment-based values and the owner-estimated values. For a tax assessor to be re-elected it is necessary for that individual to maintain and promote his or her personal popularity with the qualified voters of the county in which the office is held. As a result, attempts would be made to avoid any politically unpopular activities. An increase in assessment values would surely be an unpopular act. The increase of assessment value of property belonging to non-voters, infrequent voters, or politically inactive individuals would obviously not be as politically hazardous as would similar increases in assessments of property belonging to the politically active or influential.

FOOTNOTES

[1]John M. Richards, "The Significance of Residential Preferences in Urban Areas," Human Resources in the Urban Economy (John Hopkins Press, 1963), p. 134.

[2]William Alonso, Location and Land Use (Cambridge, 1964), p. 31.

[3]Ibid., pp. 170-171.

[4]Percy E. Wagner, "Appraisal of Single-Family Homes," Real Estate Appraisal Practice: Silver Anniversary Papers, published under the direction of the Education Committee: American Institute of Real Estate Appraisers (Chicago, 1958), p. 63.

[5]Ibid., pp. 65-66.

[6]Ibid., p. 67.

CHAPTER IV

EXAMINATION ON THE BASIS OF TAX CRITERIA

This part of the study is composed of a group of descriptive and statistical evaluations of the ad valorem tax based on the five tax criteria as stated in Chapter I. In the following, each criterion is stated and is accompanied by the results of the evaluation for which it served as a basis.

1. Equity: Is the intent of the tax administered fairly to all members of the tax-paying public?

The county tax assessors throughout Oklahoma have been engaged in property revaluation programs. Section 2481.1 of the Oklahoma Statutes called for revaluation of all taxable property in the State. The following is a segment of Section 2481.1:

> Each county assessor shall commence, immediately if possible, but no later than January 1, 1969, a comprehensive program of revaluation of all taxable property within his respective county. Such programs shall progress at a rate which will result in the revaluation of all taxable property within the county before January 1, 1972. Each assessor shall thereafter maintain an active and systematic program of revaluation on a continuous basis, and shall establish a revaluation schedule which will result in revaluation of all taxable property with-

in the county at least once each five (5) years. [1]

The Oklahoma Tax Commission has published several statistical reports on the progress of the revaluation programs as well as the findings of a number of assessment studies which have been conducted on a yearly basis.

A wide range of information concerning real estate assessments in 1970 was provided in a publication by the Oklahoma Tax Commission entitled 1971 Progress Report To The Legislature on Property Revaluation. In this publication, a table was presented showing, by county, the average assessment ratios of urban property, rural property, and total property which was sold in the year 1970.[2] (See Appendix D Table VI.)

In order to further examine the spatial equity of the ad valorem tax, a test was conducted to determine if a statistically significant difference existed between the assessment ratios of the urban properties and the rural properties which were sold in the counties of Oklahoma in 1970.

In the comparison, the student's t-test of the difference between the means of two distributions was utilized. The following is the formula for the t-test:[3]

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s_{diff}}$$

where $\bar{X}_1$ = mean of the first sample, $\bar{X}_2$ = the mean of the second sample and s_{diff} = standard error of the difference.

The number of sample observations was great enough for the normal distribution to be utilized when interpreting the results of the test. Therefore, the null and alternative hypothesis were stated as follows:

1. Null Hypothesis: The value for t will not exceed 1.96 indicating that no significant difference exists between the two means at the five percent level of significance.
2. Alternate Hypothesis: The value for t will exceed 1.96 indicating that a significant difference exists between the two means at the five percent level.

The mean assessment ratio of the urban properties was 19.69 percent of the sales value; the mean assessment ratio of the rural property was 11.75 percent of the sales value; the standard error of the difference was 0.46; and the value of t was equal to 17.26.

The value of t far exceeded 1.96, indicating that a difference existed between the two means at the five percent level of significance; therefore, the null hypothesis was rejected and the alternative hypothesis accepted.

It was concluded on the basis of this test that in 1970 urban property in Oklahoma was, in general, assessed at sig-

nificantly higher values than rural property.

It is conceivable that the cause for the difference between the means of the distributions of assessment ratios of urban and rural property was due primarily to a more rapid relative increase in the market value of rural property than or urban property. Rural land prices have generally increased rapidly from relatively low unit values, whereas by contrast, the unit values of urban land have generally gone from high to higher. The rapid increases in rural property have resulted from a number of factors. The two following factors are among those which appear to have been most influential. Speculation in rural land on the hopes of realizing high investment returns from land usages that are more intensive than agriculture has played a large part in driving up the land prices. With the expansion of markets, the value of agricultural products has generally increased which has also promoted increases in the value of agricultural land on the basis of income generating potential. If the market of a specified parcel of rural property had increased in market value without a reassessment then the assessment ratio would have decreased as a result. Therefore, even if rural and urban property has, in general, been increasing in market value, a more rapid increase in the value of rural property within the same time period and without corresponding reassessments would result in a difference between the

assessment ratios.

In the study, An Analysis of Real Property Assessments in Payne County, Oklahoma by Parcher and Dyke, which was referred to earlier in this study, a comparison was made between the assessment ratios of property in different towns located within the same county. The authors found that a number of improved urban properties in the city of Cushing, the second largest city in Payne County, were assessed at rates above average for urban property within that county.

The differences between the assessment ratios of the sample improved urban property in Cushing and other cities in Payne County were tested and found to be statistically significant. With regard to an explanation for these differences the authors made the following statement:

> The only thing that was found which might explain the differences was that during the period covered by the study (November, 1961 through August, 1963) the oil refinery at Cushing had suspended or curtailed operations. There may have been some property sales made on a buyers' market during that time which could have reduced the sales price below normal levels.[4]

The authors further stated the following with regard to differentials in assessment ratios between cities:

> ...if sales prices fall or fail to keep pace with property values in other communities and provided that assessed values stay the same, the assessment ratio will rise.[5]

On the basis of statistical comparison, it was determined that the ad valorem tax in Oklahoma is not, in gener-

al, spatially equitable for rural and urban taxpayers alike. This indicates, as a whole, that rural property owners have an unequitable tax advantage over urban property owners.

The disparity that was shown to exist between the assessment ratios in Cushing and other cities in Payne County indicates that some urban property owners had an unequitable tax advantage over other urban property owners within the same county.

2. Certainty: Is the tax administered with capriciousness?

The ad valorem tax is firmly entrenched in Oklahoma as a means of raising local revenue. The Office of County Assessor has traditionally been one of the elective positions at the county level.

Assessments are not likely to fluctuate greatly over a short period of time due to the political nature of the tax assessor's office. A sudden rise in assessments would be highly unpopular and voting in the next election could reflect this attitude. As a result, most changes originating at the assessor's office are generally slow in developing and politically as inconspicuous as possible. It therefore appears that the ad valorem tax, at least, when applied to real estate, is a certain tax and not subject to radical fluctuations.

According to the Oklahoma Tax Commission, in 1939 the

average assessed value for an acre of rural land including improvements within the State of Oklahoma was $9.67. This value was the lowest yearly average in the forty year period from 1930 to 1970. In 1970, the average assessed value for an acre of rural land including improvements was $16.77 which was the highest yearly average in the same period. The difference between the highest and lowest yearly averages was a maximum of $7.10 which represented a seventy-three percent increase from the lowest to the highest. There has been an average increase of 2.4 percent per year in the average assessed value of rural property including improvements in Oklahoma since 1939. The following indicates to the nearest percent point the changes, on a yearly basis, in the average assessed value of an acre of rural property including improvements from 1960 to 1970:

1. 1960 to 1961 an increase of 6%.
2. 1961 to 1962 an increase of 2%.
3. 1962 to 1963 an increase of 1%.
4. 1963 to 1964 a decrease of less than 1%.
5. 1964 to 1965 an increase of 3%.
6. 1965 to 1966 an increase of 2%.
7. 1966 to 1967 a decrease of 1%.
8. 1967 to 1968 an increase of 2%.
9. 1968 to 1969 an increase of 3%.
10. 1969 to 1970 an increase of 2%.

These increases (and especially decreases) have not been in keeping with such factors as the general appreciation of the market value of rural property in the last ten to fifteen years or the inflationary devaluation of the purchasing power of money. During the period from 1965 to 1970, the value of the dollar decreased at about five percent annually, but the average annual increases in the assessed value of rural property has been only around half that rate.

The lack of realistic increases in the average assessed value of rural property does not necessarily indicate a corresponding lack of increases in revenue generated from the taxation of rural property. The intake of revenue can be increased through raising the mill levy on taxable property instead of increasing the assessment level. Conversely, the intake of revenue could also be increased by raising the assessed value of the taxable property instead of raising the mill levy.

In Oklahoma it has been far more common for increases in tax revenue to have resulted from increases in the mill levy rather than from increases in assessments. To a considerable extent, this practice has been a form of political "buck passing." The tax assessors have been reluctant to raise property assessments due to the political implications of the unpopularity of such activity and as a result, the decision to determine the level of taxation has rested with

such groups as the county excise boards, the school boards, and the property owning voters within the various jurisdictions.

The primary problem with the prevailing practice of raising tax levies more readily than raising assessments and making them more equitable is that it tends to further exaggerate existing inequitable situations. The result of this problem is that the burden of taxation is disproportionately greater on individuals owning property assessed at relatively high rates than on individuals owning property assessed at relatively low rates or having the benefit of tax exemptions.

In Oklahoma during the period from 1930 to 1970, the lowest average assessed value for a town lot including improvements was $235.79 in 1935 and the highest average assessed value was $1,035.53 in 1970. There was a $799.74 difference between the high and low values which resulted in a 339% maximum increase from 1935 to 1970.

The increase in the average assessed value of town lots appears to be far more realistic than the increase in the average assessed value of rural property over the same general time period. However, this increase is not as substantial as it initially appears when viewed in its proper perspective. During the time from 1935 to 1970, the population of Oklahoma has made the transition from predominately rural residence to predominately urban residence. Urbanization,

increases in the standard of living, and increased industrialization have resulted in the extensive build-up of expensive residential and commercial structures as well as a positive increase in capital structures within the boundaries of various towns and cities. In 1935, the ratio of the total assessed value of all improvements subject to taxation to the total assessed value of all lots subject to taxation, was approximately 1.81 to 1; whereas in 1970 the ratio was about 5.3 to 1. The total assessed value of all improvements subject to taxation on city lots increased 579 percent from 1935 to 1970. In contrast, the total assessed value of all improvements subject to taxation on rural property increased 322 percent from 1939 to 1970.[6]

From 1935 to 1970, the total number of lots assessed for tax purposes increased by 20 percent, the total assessed value of all lots subject to taxation increased by 142 percent and the average assessed value of lots not counting improvements increased approximately 100 percent. Another point to consider when examining the 1970 average assessment value of $1,035.53 for a town lot including improvements, is that when a homestead exemption is applicable, taxes would be paid on $35.53 of assessed value.

As pointed out previously, the county tax assessors within Oklahoma have been engaged in an assessment revaluation program. In 1970, one year after the official inception

of the program, the average assessment ratio of urban property at 19.69 percent of market value and rural property at 11.75 percent of market value were actually lower than the urban and rural assessment ratios in 1968 at 21.12 percent and 12.12 percent respectively.[7] In 1970, nearly as great a difference existed between the assessment ratios of urban and rural property as did in 1968, one year prior to the revaluation program.

To further emphasize the lack of responsiveness in assessment practices, the average assessed value of an acre of rural property including improvements in 1968 was $15.90, and the average asessment ratio was 12.12 percent of market value; however, in 1970 the average assessed value of the same unit of property including improvements was $16.77, but the assessment ratio was 11.75 percent of market value. Over the same period of time, the market value of urban property also increased faster than tax assessments indicated. In 1968, the average value of a town lot including improvements was $984.01 and the average assessment ratio of urban property was 21.12 percent of market value; however, in 1970 the average value of a town lot including improvements was $1,035.53, but the average assessment ratio of urban property was 19.69 percent of market value.

3. Consistency between governmental entities in economy of taxation: Is there consistency be-

tween governmental entitles in the cost of administering the ad valorem tax.

The value of the total gross assessed property within a county does not specifically indicate the amount of ad valorem tax revenue collected or the actual amount and value of the taxable property within the county; however, it seems that the value of the total gross assessed property would serve as a reasonably good general indicator of the value of the taxable property, the intake of tax revenue and the magnitude of the job of assessment.

An examination was made to determine the strength of the correlation between the budgets of the offices of the county tax assessors and the value of the total gross assessments within their respective counties. The method utilized to determine the strength of correlation was the Pearson product-moment correlation procedure.[8] The correlation coefficient was computed from raw scores (the amounts of the budgets and the total gross assessed values in 1970 rounded to the nearest thousand dollars and then truncated) utilizing the following formula:[9]

$$r_{xy} = \frac{N \quad XY - X \quad Y}{N \quad X^2 - (X)^2 \quad N \quad Y^2 - (Y)^2}$$

Where r_{xy} is the correlation coefficient, X is a budget

value, and Y is the value of total assessed property within a county.

The correlation coefficient was found to be .97; therefore, indicating a strong relationship between the total value of assessed property within the counties and the budgets of the offices of their respective county tax assessors. Although a strong positive correlation was anticipated, a correlation coefficient as high as .97 was not expected. As a result of this high coefficient, steps were taken to identify the factors to which it could be attributed.

Through a contact with the Oklahoma Tax Commission, it was found that state law requires that the minimum level of salaries of county officials be graduated on the basis of the value of the assessed property and the population within their respective counties. Title 19, Oklahoma Statutes 1971, Section 180.58 provides for the codification of graduated salaries for the county tax assessors and their deputies, among other county officials, and states the purpose for the codification. The following is a quotation of that section of the Oklahoma Statutes:

> Purpose - Legislative determination. - The purpose of this act is to codify and revise the laws of the state relating to the salaries and wages of county officers and their deputies and employees, and to establish said salaries and wages by general law applicable throughout the state under a uniform schedule fixing such salaries and wages and future increases and reductions thereof upon the following basis: (A) the available revenues of the several

> counties out of which such salaries and wages may be paid, (B) the amount of services required to be performed, (C) the monetary value of such services in relation to that of non-governmental services of similar nature in the areas wherein such services are performed, and (D) the relative amounts of services required of the various county officers, their deputies and employees upon investigation and full consideration of the applicable facts. The Legislature has determined that the foregoing basis of such scheduled graduations generally are cognate to the combination of the following factors: (a) the net valuation of all tangible taxable property of the county (total taxable valuation less homestead exemption allowances) hereinafter referred to as "service-ability", and (b) the population of the county, hereinafter referred to as the "service-load"; and that the application of said factors properly establishes a rational and relevant formula for uniformity of salaries and wages and of future increases and decreases thereof.[10]

Another constraint on county budgets is stated in Title 19, Oklahoma Statutes 1971, Section 180.67. The following is a quotation of that section:

> Act as comprehensive salary code - Limitation on expenditures. - (a) It is hereby declared to be the intent of the Legislature that this act shall be the comprehensive salary code for all counties of the state and no county officer in groups "A" or "B", or their assistants, deputies, or other employees by whatever title designated, shall receive any salary or wages except as provided in this act, except that the county superintendent of schools may receive extra compensation as provided by the Oklahoma School code.
>
> (b) Notwithstanding any provisions of this act to the contrary, no county shall appropriate or expend more than seventy-five percent (75%) of its total available revenue for current general fund purposes in any fiscal year, computed as required by the fourth proviso of section 289(B), Title 68, O.S.1951, for salaries and wages of the officers named in groups "A" and "B", and their assistants, deputies and employees by whatever title designated, as classified in section 4 of this act. (Section 180.61 of this title.)

> In the event that the total sum necessary to pay the salaries and wages of officers and their assistants, deputies and employees does exceed seventy-five percent (75%) of such total available revenue, then such total sum shall be reduced to an amount equal to seventy-five (75%) of such total available revenue, and the salary and wages of each officer, assistant, deputy and employee shall be reduced by that percentage of the authorized amount thereof which said total reduction bears to the total authorized sum.[11]

The high positive correlation coefficient indicated a relatively high degree of consistency among the counties of Oklahoma in the cost of administering the ad valorem tax in relation to the total value of the assessed property within their respective jurisdiction. It can be seen that state law has an important bearing upon this consistency.

4. Consistency is assessments between various jurisdictions: Is there consistency between counties in the levels of the average assessment ratios?

Ideally, there should be reasonable consistency and uniformity in the assessment of property with spatial variations in the rate of taxation resulting through differentials in mill levies based on local revenue needs which are determined by the local taxpaying voters or their representatives.

Consistency between counties in average assessment ratios has important ramifications in the equity between counties in the burden of taxation on individual taxpayers and it also has important ramifications in the uniformity of governmental entities to incur debts at their maximum poten-

tial.

In Oklahoma, due to the existence of homestead exemptions, when assessment ratios within a particular taxation jurisdiction are generally low and the mill levy is high there is a disproportionate tax burden on taxpayers not utilizing the exemption. In contrast, if assessments were higher and the mill levy lower, a high rate of revenue intake could be maintained and the tax burden could be spread somewhat more evenly over the taxpaying population. Table V demonstrates the effect that variations in assessments and mill levies can have on the burden of taxation.

As pointed out previously, the amount of debt that a local governmental entity can incur is tied to the total assessed value of the taxable property within its jurisdiction. It stands to reason that a governmental entity can undertake the development of more capital improvements on a maximally expanded tax base than on a partially expanded tax base.

Descriptive statistical techniques were used to examine the variability of the average tax assessment ratios of the counties in Oklahoma. It was found that in 1970 Tulsa County, with an average tax assessment ratio of 24.14 percent of market value, had the highest average tax assessment ratio and Dewey County, with an average assessment ratio of 10.40 percent of market value had the lowest average tax assess-

TABLE V

THE EFFECT OF VARIATIONS IN ASSESSMENTS AND MILL LEVIES ON THE BURDEN ON TAXATION[12]

Jurisdiction	Property	Assessed Value	Homestead Exemption	Net Assessed Value	Mill Levy	Tax Payment	Value of Combined Payments	Percent of The Burden Of Taxation
Jurisdiction A	Property A_1	$1,500	$1,000	$ 500	75	$ 37.50	$150	25%
	Property A_2	1,500	0	1,500	75	112.50		75%
Jurisdiction B	Property B_1	2,500	1,000	1,500	38	57.00	152	37.5%
	Property B_2	2,500	0	2,500	38	95.00		62.5%

ment ratio. The highest ratio was more than twice as large as the lowest and there was 13.74 percent units difference between the two.

The average deviation of the county average tax assessment ratios from the state average was 3.35 percent of market value. The standard deviation of the distribution of average county assessment ratios was 3.88 percent of market value above and below the state average.

Considerable variability exists between counties in average assessment ratios. It appears from these findings that counties vary in equity with which the tax burden is spread among their taxpaying population. In addition, it appears that counties vary in relative potential for incurring debt. It therefore seems that steps should be taken to promote greater uniformity between counties in their average tax assessment ratios.

5. Social Expediency: Does the revenue program operate well within changing economic circumstances?

An examination was made of the responsiveness of the ad valorem tax in Oklahoma to changing economic circumstances. In 1930, the average assessed value for an acre of farm land including improvements was $16.04 and the average value of a town lot including improvements was $424.80. Between 1930 and 1970 the lowest average assessed value for an acre of

rural property including improvements was $9.67 in 1939. The lowest average assessed value for an urban lot including improvements was $235.79 in 1935. The highest average assessed values for the same units of property were $16.77 and $1,035.53 respectively with both occurring in 1970.

Assessed values have tended to lag behind changes in economic conditions. The Great Depression began in 1929 with prices of real estate generally falling soon after. The average assessed value of an acre of rural property including improvements did not reach a low point until 1939; however, by this time the economy as a whole was in an upward trend. The average assessed value of an urban lot including improvements did not reach a low point until 1935; however, the most crucial years of the Depression are generally considered to have been 1930, 1931, 1932, 1933 and 1934.

The legislation enabling the homestead exemption in Oklahoma was passed in 1936. The State Legislature demonstrated a tardiness in passing the homestead exemption in that early stages of economic recovery had begun by 1936. It therefore seems that this type of tax relief would have been more appropriate in the most crucial years of the Depression.

Other aspects demonstrating the lack of responsiveness of the ad valorem tax to changing economic conditions were brought out previously in the examination and discussion of the certainty of the tax. It was shown that both urban and

rural assessments in the decade of the 1960's did not keep pace with the inflationary trends of the economy. It appears that the ad valorem tax in Oklahoma had been administered in a partially regressive manner. The most regressive tax would be one which is highest when economic conditions are least prosperous and lowest when they are the most prosperous. The ad valorem tax in Oklahoma has not been administered in such an extreme manner; however, the resistance to change and the lag in reassessments has demonstrated regressive tendencies.

The ad valorem tax has a built-in mechanism whereby property can be revaluated in response to variable economic conditions. The ad valorem tax could be administered progressively and thereby help reduce the impact of inflation or if necessary respond to economic recession.

FOOTNOTES

[1]Oklahoma Statutes Annotated, Title 68, Section 2481.1.

[2]Oklahoma Tax Commission, 1971 Progress Report to the Legislature on Property Revaluation, pp. 6-7.

[3]Chase, p. 149.

[4]Parcher and Dyke, p. 13.

[5]Ibid.

[6]Oklahoma Tax Commission, 1971 Progress Report to the Legislature on Property Revaluation, pp. 6-7, and Ad Valorem Tax Division, Oklahoma Tax Commission. Table Showing Real Estate Assessments for Years 1930 and Subsequent Years Also Giving Average Value Per Year on Land and Lots.

[7]Oklahoma Tax Commission, 1971 Progress Report to the Legislature on Property Revaluation, pp. 6-7, and 1969 Progress Report to the Legislature on Property Revaluation, pp. 4-5.

[8]Chase, p. 98.

[9]The 1970 budget and assessment information was taken from the Oklahoma Tax Commission, 1971 Progress Report to the Legislature on Property Revaluation, pp. 9-89.

[10]Oklahoma Statutes Annotated, Title 19, Section 180.58.

[11]Ibid., Section 180.67.

[12]Table V was developed for illustrative purposes using hypothetical assessment values and mill levies.

CHAPTER V

SUMMARY AND CONCLUSIONS

The major aim of this study was to examine the spatial equity of various aspects of the ad valorem tax in the State of Oklahoma. A number of approaches were utilized in examining the tax and its administration.

One approach to the examination was that of indirectly comparing the values ascribed to owner-occupied houses by the county tax assessor to the values of the houses as estimated by the owners. Information indicating the value of houses as estimated by the owners was provided in the 1970 Census of Population and Housing and was available on the first count computer tapes. The City of Stillwater, Oklahoma was selected as a study area.

Sample enumeration districts were randomly selected for use in the examination. Information concerning the tax assessment values of houses in the same geographic areas as the sample enumeration districts was obtained from the tax rolls. The owner-occupied houses in the tax rolls were identified by the existence of a homestead exemption.

The raw data were adjusted and grouped in such a way

as to be compatible for statistical comparison. The information from all the sample enumeration districts was combined to form house value distributions which represented the entire city.

State law requires that no property can be assessed at more than thirty-five percent of its true cash value. The Payne County Tax Assessor, who is responsible for assessments in the City of Stillwater, indicated that the average tax assessment ratio in Stillwater is about twenty percent of true cash value and a previous tax study conducted in Payne County showed that a majority of the assessments are above 14.56 percent of true cash value.

It was hypothesized that no significant difference existed between the frequency distribution of house values as estimated by the owners and the frequency distribution calculated as if assessed values were twenty percent of true cash value.

Three comparisons were made with house values calculated as if their assessed values were 35 percent, 20 percent, and 14.56 percent of their true cash value. It was found that a significant difference existed between the owner-estimated frequency distribution and the distributions established on the basis of all three assessment ratios. It was concluded from the development of this section of the

study that the possibility for a relatively high degree of error in the homeowners' estimates existed due to differences between individuals in perceptions of house values. It was also concluded that the assessment ratios possibly varied between value categories of houses due to the lack of locational considerations in past assessment practices. The latter conclusion suggests discrimination between value categories in assessment practices.

Another aspect of the study entailed a comparison, on a state-wide level, of differences in assessment ratios of urban and rural property. An examination was made concerning the changes in assessed values over a period from 1930 to 1970. The consistency between the counties in the cost of administering the tax was viewed. An examination was made of the consistency between different counties in the level of their assessment ratios. The responsiveness of the ad valorem tax to changing economic conditions was also considered.

It was concluded on the basis of the findings from this section of the study that the ad valorem tax in Oklahoma is generally administered in an inequitable manner. It was found that a significant difference existed between the assessment ratios of urban and rural property and that assessment ratios may vary spatially within the same county. Counties were shown to differ widely in assessment ratios.

It was also found that the ad valorem tax has not generally been attuned to changing economic conditions.

Suggested Future Research

The State law has required that property be reassessed every five years. The County Tax Assessor in Payne County had completed all the reassessments on residential property as of 1971. These assessments differ, in many cases, from those of 1970 which were utilized in the examination described in this paper. The great majority of the new reassessments were increases. A study could be conducted, following a similar procedure as described in this paper, to compare the assessment indicated values of 1971 to the owner-estimated values in the 1970 census. Such an examination could be used to determine if the 1971 assessment values have a greater similarity to the owner-estimated values than did the 1970 assessments.

A study could be conducted to determine how the owner-estimates as indicated in the census data in a given area would compare to the true market value of real estate as determined through sampling techniques of actual real estate sales. Efforts could be made to determine if there are variations between different types of groups in the reliability of the estimates of house values. In addition, efforts could be directed toward identifying the degree of reliabili-

ty of the estimates from specific types of groups.

Information concerning the reliability of various groups could ultimately be used to generally indicate the overall reliability of the owner-estimated values and to isolate the factors affecting the reliability of the information in specific applications. As was indicated previously there may be variations between individuals in the way they perceive the value of their homes. Perceptual considerations affecting valuations may be associated with such factors as the perceiver's age, race, and socio-economic status. To illustrate this point, it is conceivable that individuals with low socio-economic status may tend to appraise house values incorrectly due to misconceptions, lack of knowledge, or a lack of contact with real estate market conditions and changes. In contrast, individuals that are frequently mobile in residence, relatively high in socio-economic status, and exhibit high social mobility should have reasonably accurate knowledge of the value of their houses.

Further efforts could be directed at determining whether high or low estimate reliability of different types of groups is translated into the degree of reliability of the information provided in the different house value range categories of the census.

There is a need to explore the possibilities for other uses of the owners' estimates of house values. Further know-

ledge should be developed concerning the usefulness of the owner-occupied house value information in assisting in the identification of target areas for program implementation in such fields as urban renewal, crime prevention, social work, and public health.

Suggested Practical Application

One of the most obvious practical applications for tax assessment information is for the purpose of public education. There is a great need to reform the existing ad valorem tax structure. A broad information base is necessary from which to make logical and efficient steps toward reform.

The findings of this study indicate the need for a number of reforms in the administration of the ad valorem tax in Oklahoma. It was demonstrated on the basis of statistical examination that rural property was generally assessed at a lower rate than urban property. It was also found that assessment ratios differed between cities within the same county. In order for the burden of taxation to be equalized, steps should be taken to equalize the disparity between the assessment ratios of the two types of property and between different geographic locations within the same county.

One method by which differences in assessment ratios could be minimized is by empowering the Oklahoma Tax Commission or some other state agency to require the county tax

assessor to revaluate the rural property within the county when it is found to be assessed at a significantly lower rate than urban property.

It has been shown that both urban and rural property values have generally tended to increase more rapidly than their tax assessment valuations. There has been some effort devoted to updating assessment valuations, but it appears that not enough has been done. It seems that better methods should be developed and enforced to monitor appraisal practices and encourage more accurate valuations.

Considerable variability was found to exist between counties in their average assessment ratios. This indicates that counties vary in the equity with which the burden of taxation is spread among their taxpaying population.

One method of dealing with this problem is to empower the Oklahoma Tax Commission or some other state agency to require the average assessment ratios of counties to conform, within a reasonable degree, to the state norm based on all average county assessment ratios taken as a whole. Such a measure would not have any effect on the ability of the county to raise revenue in that the mill levy would be locally determined on the basis of local revenue needs.

In general, it was found that the administration of the ad valorem tax in Oklahoma has not been attuned to changing economic conditions within the state. As pointed out pre-

viously, some steps have been taken to revaluate property within the state, however, it seemed to be indicated by the findings that additional steps are needed. The changes in the assessment values of both urban and rural property during the recent county revaluation programs have not fully reflected the actual changes in property values.

It appears that the problem is one of motivating the administrators of the tax to conduct their activities in a more responsive manner. One solution might be for the voting population to call for the establishment of economic guidelines to be used by the tax program administrators, with their compliance monitored and enforced.

On the basis of the findings of this study, it appears that the homestead exemption accomplished little, other than encouraging home ownership and unjustly shifting the burden of taxation to individuals not owning their own home. It seems likely that the lack of a homestead exemption on rental property would be reflected in the rent price of the property. In general, renting of a residence does not reflect the ability of an individual to pay taxes. Therefore, in this respect, the homeowners are receiving an unequitable tax advantage.

The existence of the homestead exemption limits the tax base of a governmental unit. When revenue needs are increased the burden of taxation is thrown on people not having a

homestead exemption on their property. By repealing the homestead exemption more property would become eligible for taxation and as a result more revenue could be generated at lower tax rates. Such a condition would seem to have the effect of promoting tax relief for those previously over-taxed and shifting a more equitable share of the burden on those previously possessing an advantage.

Another important consideration in the reform of the existing practices in ad valorem tax administration is the development of new appraisal techniques that are closely aligned with market values. It seems obvious that many locational considerations need to be weighed in the valuation of property in addition to the obvious physical aspects. Innovative assessment methods need to be developed by which appraisal values for all classes and types of property closely approximate true market values.

The census information, when available at a usable level for a specific area, could serve as an aid in the development of land use profiles indicating the frequency and value characteristics of owner-occupied housing which, along with other types of information, would be of benefit in various types of planning and programming activities. These profiles could assist in the identification of the extent of certain types of economic and social problem areas. The information could be used to qualify the existence and extent

of need for assistance and to aid in the selection of the location for problem alleviation projects. The information could be used in developing criteria for evaluating project proposals for various types of improvement activities. The profiles would be of benefit in the establishment of planning goals and in setting program and project priorities. This information could be of considerable value, when applicable, in evaluating the effectiveness of various completed projects. The census information could also be used in the examination of trends in land use characteristics in those areas for which the data were available.

SELECTED BIBLIOGRAPHY

Ad Valorem Tax Division, Oklahoma Tax Commission. 1971 Progress Report to the Legislature on Property Revaluation. Published and submitted in compliance with 68 O. S. 1971, Section 2481.11.

Ad Valorem Tax Division, Oklahoma Tax Commission. 1970 Progress Report to the Legislature on Property Revaluation. Published and submitted in compliance with 68 O. S. 1970 Supp., Section 2481.11.

Ad Valorem Tax Division, Oklahoma Tax Commission. 1969 Progress Report to the Legislature on Property Revaluation. Published and submitted in compliance with 68 O. S. 1969 Supp., Section 2481.11.

Ad Valorem Tax Division, Oklahoma Tax Commission. Table Showing 1970 and 1971 Valuations By Counties Showing Increase or Decrease.

Ad Valorem Tax Division, Oklahoma Tax Commission. Table Showing 1968 and 1969 Valuations By Counties Showing Increase or Decrease.

Ad Valorem Tax Division, Oklahoma Tax Commission. Table Showing 1960 and 1961 Valuations By Counties Showing Increase or Decrease.

Ad Valorem Tax Division, Oklahoma Tax Commission. Table Showing Real Estate Assessments for Years 1930 and Subsequent Years Also Giving Average Value Per Year on Land and Lots.

Alonso, William. Location and Land Use. Cambridge, Massachusetts: Harvard University Press, 1964.

Chase, Clinton I. Elementary Statistical Procedures. New York: McGraw-Hill Book Company, 1967.

Cornick, Philip H. "American Local Taxation," Chapter V, Taxation and Public Policy. Paul Studenski, ed. New

York: Richard R. Smith Co., 1936, pp. 81-93.

Data Collection Forms and Procedures. 1970 Census of Population and Housing. U.S. Department of Commerce, Bureau of the Census. Washington, D. C.: U.S. Government Printing Office, 1971.

Hayslett H. T. Statistics Made Simple. Garden City, New York: Doubleday and Company, Inc., 1968.

Mithoff, Richard, Jr., Project Director. The Property Tax: A Study of Inequality of Valuations and Assessments in Texas. Congressional Record E10093-103, Hon. Ken Hechler, December 4, 1970.

Oklahoma Statutes Annotated. Title 68 and Title 19, Under Arrangement of the Official Oklahoma Statutes. St. Paul, Minn.: West Publishing Co., 1966.

Oklahoma Tax Commission. Oklahoma Ad Valorem and Intangible Tax Laws 1965 Code. Published in accordance with the provisions of Sections 2403 and 2415, Title 68, O.S. 1961, as amended.

Parcher, L. A. and Paul T. Dyke. An Analysis of Real Property Assessments in Payne County, Oklahoma. Stillwater, Oklahoma: Oklahoma State University, Department of Agricultural Economics, Processed Series p. 525, 1966.

Phillips, Jewell Cass. Municipal Government and Administration in America. New York: The MacMillan Company, 1960.

Richards, John M. "The Significance of Residential Preferences in Urban Areas." Human Resources in the Urban Economy. ed. Mark Perleman (John Hopkins Press, 1963) pp. 123-126.

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

Shultz, William J. Your Taxes. Garden City, New York: Doubleday, Doron and Company, Inc., 1938.

Stillwater Education Association. Study of Assessed Valuations on Real Estate in Stillwater, Oklahoma. Stillwater, Oklahoma: Unpub., 1947.

Stillwater League of Women Voters. Payne County Fiscal Study. Stillwater, Oklahoma: Unpub., 1965.

Wagnor, Percy E. "Appraisal of Single-Family Homes," Real Estate Appraisal Practice: Silver Anniversary Papers. Published under the direction of the Education Committee: American Institute of Real Estate Appraisers. Chicago and Crawfordsville, Indiana: R. R. Donnelley and Sons Company, 1958, pp. 63-80.

Winger, Alan R. "Trade-Offs in Housing," Land Economics. XLV, Nov., 1969, pp. 413-417.

APPENDIX A

SAMPLE ENUMERATION DISTRICT MAP

Appendix A consists of a sample enumeration district map. The sample enumeration district maps contained street names, block numbers, lot numbers, and housing addition identification.

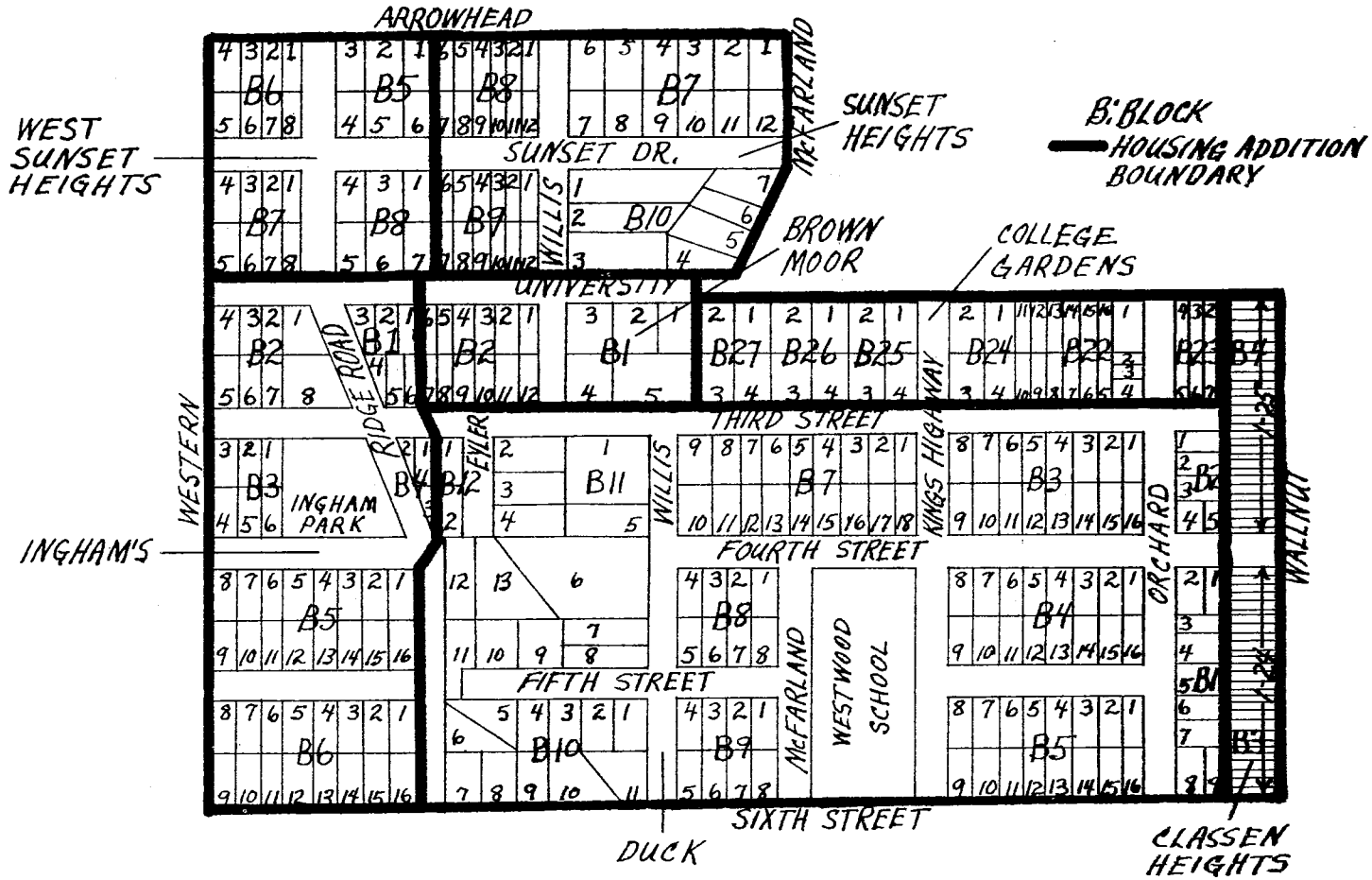

Figure 1. Example Map of Sample Enumeration District Number 32 Delineating Housing Additions

APPENDIX B

CITY MAP DELINEATING SAMPLE ENUMERATION DISTRICTS

Appendix B consists of a city map of Stillwater with the sample enumeration districts, which were used in this study, indicated.

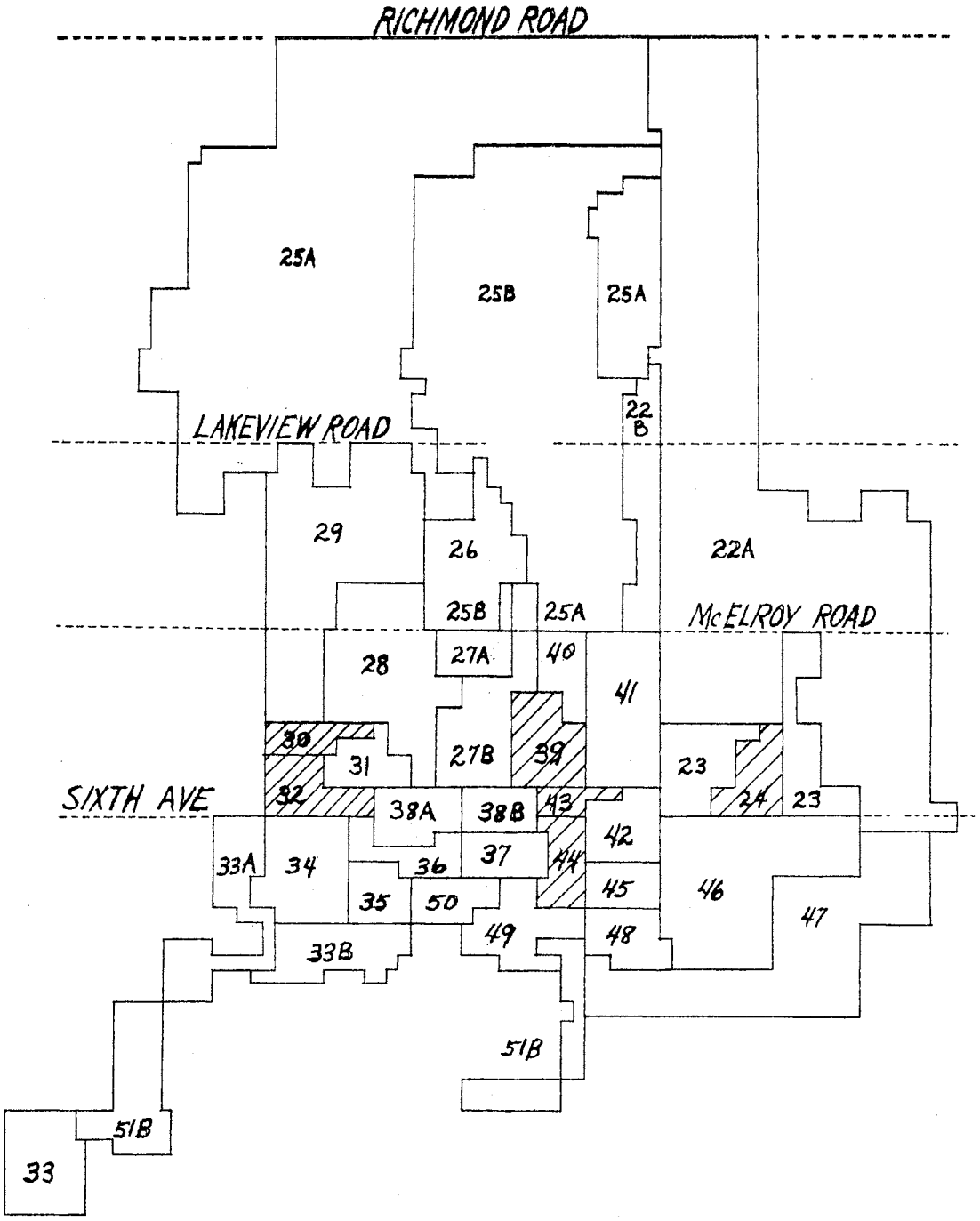

Figure 2. City Map Delineating Sample Enumeration Districts

APPENDIX C

A NEW METHOD OF AD VALOREM TAX ASSESSMENT IN PAYNE COUNTY, OKLAHOMA

For all new houses constructed in Payne County, Oklahoma the tax assessor attempts to assess the property at 16 percent of the true market value. The following are the primary value considerations in the appraisal of the true market value of the new houses.

A. A value of $12.50 is ascribed to each square foot of floor space up to 1,200 square feet.

B. A value of $10.00 is given to each square foot of floor space more than 1,200 square and less than 1,750 square feet.

C. A value of $12.50 is ascribed to each square foot of floor space more than 1,750 square feet.

D. A value of $800 per fireplace is added to the value of the house.

E. A value of $5.00 for every square foot of garage floor space is added to the value of the house.

F. A value of $1.50 is added to the appraised value of the house for each square foot of shake type roof. A composition-type roof is considered in with the cost of the floor space.

G. A value of $.60 is added for each square foot of uncovered patio or a value of $2.00 is added for each square foot of covered patio.

The subtotals of the above value considerations are combined to obtain an estimate of the true market value of the house. The assessed value is then calculated as 16 percent of the estimated market value.

The estimated market value of the lot on which the house is located is determined from price information contained on copies of land transfer documents supplied by the county clerk. The assessed value of the lot is then calculated as 16 percent of the estimated market value.

The total estimated market value of the house and lot are compared by the tax assessor to the market price approximated on the basis of price information based on property transfer documents provided by the county clerk to determine if a reasonable degree of consistency exists between the two values. If the tax assessor's appraisal is reasonably consistent with the approximated market price then the appraised value is retained and it is used as the basis for the assessed value. If the tax assessor's appraisal is inconsistent

with the approximated market price then the tax assessor's appraisal is adjusted to reasonably conform with that value and the assessed value is then derived.

APPENDIX D

ASSESSMENT RATIOS BY COUNTIES

The Table in this Appendix was obtained from the 1971 Progress Report to the Legislature on Property Revaluation, compiled by the Ad Valorem Tax Division of the Oklahoma Tax Commission.

TABLE VI

STATE OF OKLAHOMA, OKLAHOMA TAX COMMISSION
1970 REAL ESTATE ASSESSMENT-SALES RATIO
STUDY (ARITHMETIC MEAN COMPUTATION)

County	Urban Property		Rural Property		Total Property*	
	Number of Sales	Ratio (%)	Number of Sales	Ratio (%)	Number of Sales	Ratio (%)
Adair	19	14.23	39	13.95	58	14.03
Alfalfa	17	21.38	28	12.00	45	13.60
Atoka	14	9.32	40	12.03	54	11.41
Beaver	8	23.44	10	10.38	18	12.54
Beckham	103	20.98	33	10.68	136	16.08
Blaine	40	14.87	22	13.53	62	13.95
Bryan	48	14.86	29	10.07	77	12.38
Caddo	69	17.80	38	10.34	107	12.99
Canadian	216	18.45	47	14.28	263	16.26
Carter	62	18.76	12	11.53	74	16.49
Cherokee	14	19.71	32	14.38	46	16.62
Choctaw	28	14.33	27	7.81	55	10.57
Cimarron	10	18.50	10	16.48	20	16.85
Cleveland	619	19.64	44	7.58	663	18.20
Coal	22	23.23	18	9.61	40	14.01
Comanche	412	15.85	22	9.10	434	15.11
Cotton	36	14.75	13	11.22	49	12.01
Craig	40	21.70	15	11.16	55	14.45

TABLE VI (Continued)

County	Urban Property		Rural Property		Total Property	
	Number of Sales	Ratio (%)	Number of Sales	Ratio (%)	Number of Sales	Ratio (%)
Creek	68	21.49	21	13.74	89	19.11
Custer	172	16.72	18	7.13	190	12.33
Delaware	28	15.23	29	13.48	57	14.20
Dewey	23	17.79	16	8.90	39	10.40
Ellis	13	18.13	14	11.12	27	12.68
Garfield	257	18.04	22	8.70	279	15.13
Garvin	49	21.85	23	10.99	72	16.74
Grady	55	17.22	34	12.69	89	15.00
Grant	13	17.80	18	10.39	31	11.47
Greer	28	20.62	18	8.87	46	13.21
Harmon	38	20.87	21	11.19	59	14.04
Harper	30	20.45	9	8.05	39	11.15
Haskell	21	20.51	17	12.58	38	15.02
Hughes	19	23.94	22	12.24	41	17.17
Jackson	214	17.59	28	8.15	242	13.86
Jefferson	33	20.59	14	9.92	47	13.02
Johnston	15	20.58	18	13.28	33	15.74
Kay	185	17.38	22	10.80	207	15.11
Kingfisher	45	20.08	16	12.27	61	14.61
Kiowa	73	20.00	19	11.65	92	14.29
Latimer	23	18.76	22	15.02	45	16.25
LeFlore	29	13.95	26	12.91	55	13.45
Lincoln	39	17.95	51	7.43	90	12.15
Logan	27	19.11	15	12.92	42	15.80

TABLE VI (Continued)

County	Urban Property		Rural Property		Total Property	
	Number of Sales	Ratio (%)	Number of Sales	Ratio (%)	Number of Sales	Ratio (%)
Love	13	14.60	14	9.27	27	10.80
McClain	81	17.35	60	11.10	141	13.36
McCurtain	18	15.03	23	13.73	41	14.08
McIntosh	35	16.96	14	9.47	49	13.08
Major	18	19.55	10	9.49	28	12.01
Marshall	26	14.47	12	10.95	38	12.55
Mayes	57	10.84	25	9.21	82	12.58
Murray	50	19.25	16	7.56	66	13.94
Muskogee	112	22.58	24	12.38	136	20.21
Noble	30	18.71	27	14.12	57	15.71
Nowata	37	21.39	28	13.29	65	16.53
Okfuskee	30	22.65	45	14.05	75	17.24
Oklahoma	1,101	20.52	30	9.13	1,131	20.40
Okmulgee	106	20.30	42	11.24	148	17.42
Osage	25	22.81	22	18.24	47	20.35
Ottawa	65	22.61	23	13.25	88	18.95
Pawnee	38	14.71	13	8.68	51	11.52
Payne	109	17.55	18	13.66	127	16.68
Pittsburg	97	14.49	14	13.02	111	14.02
Pontotoc	54	18.29	21	11.23	75	15.12
Pottawatomie	97	19.56	35	12.32	132	17.11
Pushmataha	14	20.63	34	15.19	48	16.41
Roger Mills	16	19.69	18	9.76	34	10.77
Rogers	44	17.29	26	9.78	70	13.30

TABLE VI (Continued)

County	Urban Property		Rural Property		Total Property	
	Number of Sales	Ratio (%)	Number of Sales	Ratio (%)	Number of Sales	Ratio (%)
Seminole	22	19.18	22	13.14	44	16.88
Sequoyah	34	22.43	22	22.50	56	22.47
Stephens	54	21.72	17	12.94	71	19.04
Texas	86	18.43	32	9.33	118	12.70
Tillman	50	20.01	24	12.04	74	14.62
Tulsa	951	24.54	40	15.99	991	24.14
Wagoner	38	20.28	22	13.25	60	16.66
Washington	92	22.82	22	14.46	114	21.58
Washita	47	17.37	20	10.50	67	12.00
Woods	42	17.60	7	11.39	49	13.61
Woodward	44	21.08	14	10.37	58	16.03
STATE OF OKLAHOMA	7,007	19.69	1,828	11.75	8,835	17.57

*Weighted average, consisting of the addition of: (1) the figure resulting from the multiplication of the 1970 urban real estate assessments, as a percentage of total real estate assessments, by the indicated urban property ratio, and (2) the figure resulting from the multiplication of the 1970 rural real estate assessments, as a percentage of total real estate assessment, by the indicated rural property ratio.

Source: Oklahoma Tax Commission, 1971 Progress Report to the Legislature on Property Revaluation, pp. 6-7.

VITA

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