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Sales Data in the Property Tax System

Their Adequacy to Estimate Market Value

T. Alexander Majchrowicz

Tax officials rely upon assessment-ratio studies to estimate the property's market value. Assessment-ratio studies, which compare the assessed value to market value of property in the tax assessment system. In many States, the quality of sales information collected for ratio studies may compromise the accuracy of data and results of studies conducted. The questionable quality of sales data found in the tax assessment system, plus concerns regarding the adequacy of sales prices of nonfarmed properties to estimate market value of all other properties, most likely restrict uses of these data in research analyses that require a high level of statistical confidence.

Keywords: Real property tax, transfer of property, assessment-ratio study, sale price, market value.

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SALES DATA IN THE PROPERTY TAX SYSTEM: THEIR ADEQUACY TO ESTIMATE MARKET VALUE.
 By T. Alexander Majchrowicz, Natural Resource Economics Division, Economic
 Research Service, U.S. Department of Agriculture. Washington, D.C. 20005-4788.
 April 1986. ERS Staff Report No. AGES860314.

630.72
 E36
 M3534

ABSTRACT

Tax officials rely upon sale price of real property to estimate the property's market value. Assessment-ratio studies, which compare the assessed value to market value of property, are a major use of sales data in the tax assessment system. In many States, however, limited verification of sales information collected for ratio studies may compromise the accuracy of data and results of studies conducted. The questionable quality of sales data found in the tax assessment system, plus concerns regarding the adequacy of sales prices of transferred properties to estimate market value of all other properties, most likely restrict uses of these data in research analyses that require a high level of statistical confidence.

Keywords: Real property tax, transfer of property, assessment-ratio study, sale price, market value.

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Sales Data in the Property Tax System

Their Adequacy to Estimate Market Value

T. Alexander Majchrowicz

INTRODUCTION

Ownership of most real property includes the obligation to pay real property taxes to the government under whose authority the ownership is held. The amount of the tax is based on a measure of the property's value determined by local tax assessment procedures. Most States, through legislation or court decisions, define the measure of value for taxation purposes--the assessed value of property--as market value or some percentage of market value. Although there are many statutory bases for assessed value, including actual or current market value, fair cash value, reasonable fair cash value, true and actual value, full and true value, true value in money, sound value for purposes of sale, and so forth, these terms generally represent some view of market value.

Appraisers and assessors valuing property for tax purposes often use sale price as a measure of market value. Sale price is used for valuation purposes primarily in property classes that experience frequent transfers, such as residential parcels, while appraisals are typically used to value commercial and industrial property. Sales data are widely used because market transactions produce an easily available expression of value. Property valuator's acceptance of sale price as an indicator of, or a proxy for, market value is evidenced by the generally regarded definition of market value, being "the most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which the appraised property will sell in a competitive market under all conditions requisite to fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress" (2).^{1/}

In economic theory, however, sale price and market value are equivalent only in a perfectly competitive market where participants have an insubstantial share of the market and possess perfect knowledge. That is, in markets with many buyers and sellers, actions of individuals have no influence on prices but, with all participants omniscient of market factors, collectively establish uniform prices in the market. Such perfectly competitive markets exist only as a theoretical economic model. In most markets, conditions for perfect competition are only partially met at best. Nonfulfillment of all conditions for perfect competition causes uncertainty in equating sale price to market value. But by relaxing the requirements for perfect competition or assuming that these requirements have been satisfied, many tax officials, assessors, appraisers, and other property value experts have accepted sale price, often with adjustments for transaction characteristics such as time and financing, as an accurate indicator of market value.

^{1/} Underscored numbers in parentheses refer to literature cited in the References section.

Acceptance of sale price as a measure of market value has led tax officials to greatly rely upon sales data in the property tax assessment system. Assessors use sales data to monitor market value trends and, subsequently, to update assessment rolls. Sales data are also used as value indicators in the appraisal of properties. In addition to price information obtained from sales, assessment officials rely on transfer data to reveal ownership changes and to identify the property transferred. The importance of transfer data is summarized by the International Association of Assessing Officers in describing "accurate, well-organized sales information [as] one of the essential features of a successful assessment system. Good sales data make it possible to apply effectively all three approaches to value . . . and to develop a reliable assessment-ratio program" (7).

Despite the accepted use of sales data in the tax assessment system, questions remain whether sales data accurately indicate market value. Accuracy is defined here as an indicator of both the appropriateness and reliability of sale price in determining market value. In past research, property valuation professionals have focused their discussions on the relationship between sale price and market value, citing restrictions on the use of sale price to accurately measure the market value of property. Restrictive factors listed by land value analysts include the limitation of properties that have sold to represent all other, similar property in the market area; the lack of sufficient sales in specific property classes or the low number of arm's length transactions in general; the segmented nature of local markets; the effects of nonconventional financing; urban and speculative influences on purchase price, particularly in farmland; and the motives of buyers and sellers. However, concerns regarding the ability of sales data to measure market value assume that valid data has been collected and shortcomings exist with the use of these data. While the importance of the appropriateness of sale price to estimate market value should not be discounted, this paper focuses on the reliability of sales data, in particular those sales data found in the tax assessment system. Reliability, in the nonstatistical sense, is intended to ascertain the quality of these data at the time of collection or after verification. If the reliability of data is poor at the initial stage of sales information research, any adjustments to increase the data's ability to estimate market value may be attempting to fine-tune a system in which inferior components were installed. Consequently, results of studies that utilize these data may be misleading.

An appraisal of the quality of sales data collected in the tax assessment system is valuable to two principal groups. Foremost are officials that use the data in the fiscal and legal administration of real property. The second group consists of all other users or potential users of these sales data, chiefly analysts concerned with the control, use, value, or transfer of real property.

ANALYSIS

To examine the reliability of sales data found in the assessment system, this study analyzes the collection, preparation, and verification of sales data used in State assessment-ratio studies. Assessment-ratio studies were analyzed because 43 States use sales data in their studies. Therefore, ratio studies are collectively one of the largest users and sources of sales data at the national level.

Information reported in this analysis was compiled from several sources of data on assessment-ratio studies. The principal information source was a summary of a survey conducted by the Arizona Department of Revenue to determine procedures and data requirements of States that prepare assessment-ratio studies (3). Other information was obtained from an Idaho Tax Commission survey of ratio study programs (6), a Michigan Tax Commission survey of State property tax administration (12), and general reports by the U.S. Department of Commerce (16, 17). Supplemental data were collected by direct contact with State tax officials.

Assessment-Ratio Studies

Assessment-ratio studies, designed to compare assessed value to market value of property, are undertaken principally for purposes of tax equalization and State aid apportionment. All States except California, Delaware, North Carolina, 2/ and Wyoming conduct assessment-ratio studies. Ratio studies are required by law in 40 States. 3/ The remaining six States are either mandated by administrative rule or voluntarily elect to perform ratio studies (table 1).

The majority of States perform ratio studies annually, the exceptions being Arizona (three times per year); Ohio (two times per year); Florida, Massachusetts, Tennessee, Texas, and Vermont (every two years); and Indiana (every 10 years). Idaho conducts a ratio study for most property categories two times per year to provide county or State officials with data for equalization purposes but prepares an annual report on Statewide assessment conditions. New York conducts sales-based ratio studies annually and appraisal-based studies every 2 or 3 years (table 1).

Market value estimates used in assessment-ratio studies may be based on sales data, appraisals, or a combination of both (table 2). Only Indiana, Louisiana, and Missouri rely solely on appraisals to estimate market value. New York relies on appraisals for one ratio study and sales data for another. Fifteen States use sales data only. The remaining 27 States that perform assessment-ratio studies use sales data supplemented with appraisals. Appraisals are generally made of parcels in property classes that experience infrequent sales, such as commercial and industrial properties.

Sources of Sale Price Data

To supply tax officials with sales data necessary to conduct ratio studies, most States obtain documentation of the sale, either on buyer or seller statements mandated by law and filed in local government offices or secured from other sources privy to the transaction. Disclosure documents are referred to as real estate transfer declarations, affidavits of value, certificates of value, real estate transfer statements, and other terms. A written disclosure of the sale price of transferred property is required in 27 of the States that conduct assessment ratio studies (table 3). 4/ In nine States that do not require

2/ North Carolina ratified a legislative bill in July 1985 requiring that ratio studies begin in 1987.

3/ In Hawaii, Maine, and Oregon, the legal obligation to conduct ratio studies rests with the county or municipality. The State supervises or assists the local jurisdictions.

4/ Three other States--California, Delaware, and Wyoming--require the disclosure of sales prices but do not conduct assessment-ratio studies.

Table 1--Legal requirements and frequency of assessment-ratio studies

State	Required by law	Performed but not required by law	Frequency	
			Annual	Other
Alabama		x	x	
Alaska		x	x	
Arizona		x		3 times/year
Arkansas	x		x	
California	No study 1/			
Colorado	x		x	
Connecticut	x		x	
Delaware	No study			
Florida	x			Every 2 years
Georgia	x		x	
Hawaii	x 2/		x	
Idaho	x			2 times/year 3/
Illinois	x		x	
Indiana	x			Every 10 years
Iowa	x		x	
Kansas	x		x	
Kentucky	x		x	
Louisiana	x		x	
Maine	x 4/		x	
Maryland	x		x	
Massachusetts	x			Every 2 years
Michigan		x 5/	x	
Minnesota	x		x	
Mississippi	x		x	
Missouri	x		x	
Montana		x	x	
Nebraska	x		x	
Nevada	x		x	
New Hampshire	x		x	
New Jersey	x		x	
New Mexico	x		x	
New York	x		x 6/	
North Carolina	No study			
North Dakota	x		x	
Ohio	x			2 times/year
Oklahoma	x		x	
Oregon	x 2/		x	
Pennsylvania	x		x	
Rhode Island	x		x	
South Carolina	x		x	
South Dakota	x		x	
Tennessee	x			Every 2 years
Texas	x			Every 2 years
Utah	x		x	
Vermont	x			Every 2 years
Virginia	x		x	
Washington	x		x	
West Virginia		x	x	
Wisconsin	x		x	
Wyoming	No study			

1/ California conducts a "sampling survey" in each county every 5 years to determine compliance with statutes.

2/ Counties in Hawaii and Oregon are required by law to conduct ratio studies with assistance from State agencies.

3/ A ratio study is performed 2 times per year for equalization purposes but a general Statewide report of assessment conditions is prepared annually.

4/ In Maine, municipalities are required by law to conduct ratio studies.

5/ Ratio studies are required by administrative rule in Michigan.

6/ New York performs sales-based ratio studies annually and appraisal-based studies every 2 or 3 years.

Table 2--Source of market value estimates used in assessment-ratio studies

State	Sales	Appraisals	Combination 1/
Alabama	x		
Alaska	x		
Arizona	x		
Arkansas			x
Colorado			x
Connecticut	x		
Florida			x
Georgia			x
Hawaii	x		
Idaho			x
Illinois	x		
Indiana		x	
Iowa			x
Kansas			x
Kentucky			x
Louisiana		x	
Maine			x
Maryland			x
Massachusetts			x
Michigan			x
Minnesota	x		
Mississippi			x
Missouri		x	
Montana	x		
Nebraska			x
Nevada			x
New Hampshire	x		
New Jersey	x		
New Mexico	x		
New York	x	x 2/	
North Dakota			x
Ohio	x		
Oklahoma			x
Oregon			x
Pennsylvania	x		
Rhode Island	x		
South Carolina			x
South Dakota			x
Tennessee			x
Texas			x
Utah			x
Vermont			x
Virginia	x		
Washington			x
West Virginia			x
Wisconsin			x

1/ Some States generally perform appraisals to obtain estimates of market value for property categories that experience infrequent sales. Other States appraise property only when a sufficient number of sales is not available. No distinction is made in this study as to whether appraisals are supplemental to or substitutes for sales data used in assessment-ratio studies.

2/ New York conducts both sales and appraisal-based ratio studies.

Table 3--State recordation requirements and transfer taxes

State	Transfer document required	Basis of transfer tax	
		Full sale price	Net sale price 1/
Alabama	No		x
Alaska	No		No tax
Arizona	Yes		No tax
Arkansas	Yes	x	
California	Yes		x 9/
Colorado	No 2/	x	
Connecticut	No 3/	x	
Delaware	Yes	x	
Florida	No 2/	x	
Georgia	Yes		x
Hawaii	Yes	x	
Idaho	No		No tax
Illinois	Yes	x 7/	
Indiana	No		No tax
Iowa	Yes	x	
Kansas	Yes		No tax
Kentucky	Yes	x	
Louisiana	No 4/		No tax
Maine	Yes	x	
Maryland	Yes	x	
Massachusetts	No 3/		x
Michigan	No 5/	x	
Minnesota	Yes		x
Mississippi	No		No tax
Missouri	No		No tax
Montana	Yes		No tax
Nebraska	Yes	x	
Nevada	Yes		x
New Hampshire	No 3/	x	
New Jersey	Yes	x 8/	
New Mexico	No		No tax
New York	Yes	x	
North Carolina	No		x
North Dakota	Yes		No tax
Ohio	Yes	x	
Oklahoma	No 2/		x
Oregon	No 6/		No tax
Pennsylvania	Yes	x	
Rhode Island	Yes	x	
South Carolina	Yes		x
South Dakota	No		x
Tennessee	Yes		x
Texas	No		No tax
Utah	No		No tax
Vermont	Yes	x	
Virginia	Yes	x	
Washington	Yes		x
West Virginia	Yes	x	
Wisconsin	Yes	x	
Wyoming	Yes		No tax

1/ Net sale price is exclusive of liens or mortgages assumed.

2/ Documentary fee or tax levied.

3/ Local officials file forms with transfer data.

4/ Sale price is recorded at the Clerk of Courts office.

5/ Sale price is stated on the original transfer document or an affidavit.

6/ No particular form is required for the statement of full consideration as long as the requirement to disclose the actual consideration paid for the transfer is reasonably met.

7/ Includes liens but excludes outstanding amounts of assumed mortgages.

8/ Does not include liens for property taxes, water and sewerage charges, and so forth.

9/ Tax is authorized by State statute but locally imposed.

buyers or sellers to submit a transfer affidavit, disclosure of sale price is attained through other methods. Colorado, Florida, and Oklahoma impose documentary fees from which sale price is calculated. Local officials in Connecticut, Massachusetts, and New Hampshire file forms with the State that contain sales data. In Louisiana, sale price is recorded with the local Clerk of the Courts. Sale price is stated on the original transfer document or an affidavit in Michigan. Oregon requires the disclosure of actual consideration given for the transferred property but does not specify a particular form on which to submit the information.

As an alternative to the above forms of sale price disclosure, transfer tax information may be used to determine sale price. Price determination is accomplished by examining the rate of tax (tax per dollar of sale price) and calculating the price which corresponds to total taxes paid. However, the ability to determine price from tax data is limited to those States which impose a transfer tax on full sale price (table 3) (13). Tax data available from States that impose a transfer tax on sale price less mortgages or other liens, in essence a net sale price, do not permit the calculation of full consideration paid for the transferred property. Of the 11 States--Alabama, Alaska, Idaho, Indiana, Mississippi, Missouri, New Mexico, North Carolina, South Dakota, Texas, and Utah--that do not require disclosure affidavits or comparable forms at the time of sale, none imposes its transfer tax on full sale price. While 10 of the 11 States conduct ratio studies, 5/ Indiana and Missouri depend strictly on appraisals to estimate market value, making sale price disclosure unessential for performing studies in these two States. The remaining eight States perform assessment-ratio studies, as required by law, relying principally upon appraisals or voluntary disclosure of information from parties knowledgeable of the transaction. Voluntary disclosure, however, provides limited sales data. For example, the response rate to a voluntary sales questionnaire in Mississippi is 40 percent, of which 60 to 70 percent of the questionnaires may be usable in ratio studies (9). In New Mexico, a 40- to 50-percent response rate is achieved from a voluntary survey of buyers and sellers (15).

Verification of Sales Data

Accurate assessment and sales data are necessary to achieve reliable findings of assessment-ratio studies. Ensuring that the data are accurate implies that assessment personnel involved in collecting, confirming, screening, and adjusting sales data are familiar with the practices of transferring real estate in their region and are knowledgeable of local appraisal and assessment principles (8).

Data Sources

Information about real property transfers is available from many sources. In addition to the immediate parties involved in transferring property, real estate agents, brokers, financial officers, title agents, and attorneys all have knowledge to some degree of certain property transactions. A portion of the 43 States that use sales data in their assessment-ratio studies use a number of these sources to verify sales information collected (table 4). Buyers and sellers are most frequently contacted. Although 30 States question either the buyer

^{5/} North Carolina suspended its assessment-ratio study because of budgetary problems.

Table 4--Sources used to verify sale price in States utilizing sales data for assessment-ratio studies

State	Buyer	Seller	Real estate agent	Assessors	Other
Alabama	G 1/	G	G	- 2/	-
Alaska	O	O	O	-	-
Arizona	N	N	N	-	-
Arkansas	O	N	G	-	Title companies
Colorado	O	O	O	O	-
Connecticut	G	O	O	-	Lawyers (O) Appraisers (G) Tax officials
Florida	-	-	-	-	-
Georgia	-	-	-	-	-
Hawaii	O	O	-	-	-
Idaho	G	O	-	-	Appraisers
Illinois	G	G	-	-	-
Iowa	G	G	G	X	-
Kansas	O	O	-	-	Appraisers/State personnel
Kentucky	O	O	N	-	-
Maine	-	-	-	X	-
Maryland	O	N	N	-	Lawyers
Massachusetts	-	-	-	X	-
Michigan	G	O	O	-	-
Minnesota	G	G	O	-	-
Mississippi	G	G	O	-	-
Montana	O	G	N	-	Appraisers
Nebraska	O	G	-	X	-
Nevada	O	O	O	-	Title companies
New Hampshire	G	-	-	-	-
New Jersey	G	O	O	-	Lawyers/Title companies
New Mexico	G	G	-	X	-
New York	-	-	-	G	-
North Dakota	G	-	-	-	Tax officials Examiners
Ohio	-	-	-	-	-
Oklahoma	O	O	O	-	-
Oregon	G	O	G	-	-
Pennsylvania	-	-	-	-	-
Rhode Island	N	N	N	-	-
South Carolina	N	N	N	X	-
South Dakota	G	G	G	-	Title companies
Tennessee	O	O	O	-	-
Texas	O	O	O	-	Appraisers (O)/Title companies Bank officials
Utah	G	O	O	-	-
Vermont	N	N	N	-	-
Virginia	O	O	N	-	-
Washington	-	-	-	-	-
West Virginia	N	N	N	-	State appraisers
Wisconsin	O	O	O	G	-

1/ G = General practice
O = Occasionally
N = Never or almost never
X = Indicated but frequency not given

2/ A dash (-) indicates that no response was given or could be determined. This study assumes that no response implies an answer equivalent to "never or almost never".

or seller to verify sales data, only 17 do so as a general practice while the other 13 States contact the parties only occasionally. Real estate agents, lawyers, and title companies were reported as additional sources of information in 18 of the States surveying buyers and sellers.

Of the 13 States that do not question buyers or sellers, none contacts real estate agents, lawyers, or title companies in their verification procedures. Five of the States--Arizona, Pennsylvania, Rhode Island, Vermont, and Washington--do not ask any specified party to verify sales data but depend solely on information obtained from tax documents or the sale price disclosure affidavit (table 4). The remaining eight States specify that they rely on tax officials or appraisers to verify sales. ^{6/} However, responses shown in table 5 regarding verification methods reveal that of the 8 States listing only tax officials or appraisers as verifying sales data, Georgia, Maine, Ohio, South Carolina, and West Virginia indicate that verification is accomplished through use of tax or disclosure documents.

Methods of Verifying Sales Data

Those States contacting buyers, sellers, or real estate agents to verify sales information do so through questionnaires, telephone calls, personal interviews, or some combination of these methods (table 5). No method is used predominantly. No determination is made in this study of the primary verification technique used in States indicating multiple methods. A reasonable assumption, however, is that verification by telephone and personal interview are secondary procedures used in many States to confirm data obtained from questionnaires. Questionnaires most probably are the primary verification technique because written, documented evidence of the sale is provided at minimal cost and effort through this method.

In States relying on tax officials to verify sales data, the examination of appropriate transfer documents may be conducted by county or State personnel. For example, county tax officials in Georgia are responsible for reviewing sales information before submitting data to the State. In Ohio, State examiners review each conveyance form filed with the county auditor.

Validity of Sales Data

Although a superficial examination of the verification procedures used would conclude that most States attempt to obtain accurate sales data, closer analysis leads to several observations regarding the degree of accuracy achieved. First, the terminology used to describe processes of assuring data accuracy may be misleading. States refer to data verification or confirmation procedures, interchanging the terms synonymously. However, confirmation when used to imply corroboration is different than verification used in the context of ascertaining the truth. In this sense, many States may confirm sales data by merely assuring that the event occurred and sufficient data were collected while few States actually verify the validity of the data supplied. The lack of verification is not surprising given the high costs, both in money and time, that would be incurred by governments to obtain completely full and correct data for all sales. Offices with limited budgets and personnel would not be able to thoroughly monitor all transactions.

^{6/} Tax officials include all persons involved in the tax assessment process.

Table 5--Method of sale price verification in States using sales data for assessment-ratio studies

State	Personal interview	Telephone	Questionnaire	Declaration	Transfer tax data
Alabama	x	x	x		x
Alaska			x		
Arizona				x	
Arkansas	x	x			x
Colorado	x	x	x		x
Connecticut	x		x		x
Florida 1/					
Georgia					x
Hawaii		x			x
Idaho			x		
Illinois	x		x	x	
Iowa	x	x	x	x	
Kansas	x	x	x	x	
Kentucky	x		x		x
Maine				x	
Maryland	x			x	
Massachusetts 2/					
Michigan	x	x	x		
Minnesota	x	x		x	
Mississippi	x	x	x		
Montana			x	x	
Nebraska		x		x	
Nevada	x	x	x	x	
New Hampshire			x		x
New Jersey	x	x	x	x	x
New Mexico	x	x	x		
New York 3/					
North Dakota	x	x	x	x	
Ohio				x	x
Oklahoma	x	x			x
Oregon	x	x	x		
Pennsylvania				x	x
Rhode Island					x
South Carolina					x
South Dakota	x	x	x		x
Tennessee	x	x			x
Texas	x				
Utah	x	x	x		
Vermont					x
Virginia	x		x		x
Washington				x	x
West Virginia				x	
Wisconsin	x	x		x	

1/ Florida relies on appraisers to verify sales data; the State assumes no verification responsibility.

2/ Massachusetts conducts no actual verification of periodic sales reports submitted by local assessors.

3/ Sales data subject to corrections submitted by local assessors.

Second, the nature of assessment-ratio studies limits the type of transfer data required to perform the study. Because a measure of market value is necessary in ratio studies, States using sales information to determine market value require data on arm's length sales only. Most States have a check list of non-usable, non-arm's length transfers--foreclosures, bankruptcies, condemnations, family conveyances, trades, tax exempt sales, and so forth--which are eliminated from their ratio studies. Nearly two-thirds of all land transfers are reportedly rejected from current assessment-ratio analyses because they are not considered representative of market value transactions (9). As an example, 12,531 agricultural transfers were reported in Nebraska during 1984. After local assessors removed questionable transactions, as defined by State guidelines, only 1,425 sales remained to compute statistics in Nebraska's ratio study (14). Thus, while the removal of non-arm's length transfers from databases used in ratio studies is necessary, some States indicating that sales data are verified may only be screening documents to determine whether conveyances are arm's length or non-arm's length transactions.

Third, most States do not verify all conveyances reported but instead examine a sample of the transfers. While some States sample a large percentage of transfers, the sample size in Alabama and Tennessee, for example, is 11 and 14 percent, respectively, of the gross number of transfers reported (17). Transfers verified in other States, such as Colorado, are comprised only of sales yielding abnormally high or low assessment/sales price ratios, accepting other sales as representative of market value.

Adjustments Made to Sales Prices

The comparison of sales prices among properties is possible if transactions are of comparable properties that occur within a similar time period under like circumstances and conditions. In many cases, however, variation in characteristics of the sales limit the comparability of sales prices, and consequently restrict their ability to provide market value estimates for use in ratio studies. States that use sales data to prepare assessment-ratio studies generally recognize the effects of several variables on sale price--the time of sale, the value of personal property, and creative financing--and adjust price to account for variation caused by these factors. Adjustments to price for the time of sale are usually not necessary because only sales data from a specified period are used in ratio studies. Thus, adjustments made by States for time of sale take the form of a screening process to eliminate sales that occurred in years other than the study period.

Most States that use sales data in assessment-ratio studies adjust the sale price for personal property. Although some States did not report any adjustments for personal property, most likely all States account for the value of this property in an attempt to obtain a sale price which reflects real property value only. Corrections for personal property are principally accomplished by eliminating the value of personal property included in the sale. A few States indicated that sales which contained personal property were not used in their ratio studies.

Tax officials, and other property valuers, have increasingly recognized that creative financing may obscure the cash equivalence of sale price. Divergence of sale price and market value caused by creative financing has been

acknowledged to varying degrees by several States in their assessment-ratio studies (3). ^{7/} Virginia and Wisconsin reject from their ratio studies all sales with nonmarket interest rates. Seven States--Alaska, Colorado, Florida, Hawaii, Illinois, Kentucky, and Minnesota--indicated that various adjustments to price are made based on the type of financing but did not specify the manner in which the adjustments are determined. Nevada responded that adjustments to sales prices are made when financing is not similar to the market rate of interest. Adjustments in Nevada are based on the "present worth of a future value" for the property. Three States specified a percentage by which sales prices are reduced for creative financing: Tennessee, 3 percent, and Arizona and Pennsylvania, 15 percent. In contrast, Maryland reported that a study of sales with seller financing had no significant impact on sale price.

CONCLUSIONS

Uses and Users of Sales Data

Researchers have long expressed interest in fiscal records maintained by local governments as possible sources of data on land values, ownership, and changes in ownership (5, 11). However, application of these data has been limited to local studies of property ownership, value, and variables affecting land prices. A probable factor restricting large-scale use of property records is the difficulty of accessing data that are scattered throughout the United States in local offices and maintained by diverse recordkeeping systems. At a regional or national level, the time required to discover and comprehend the array of land record systems utilized in local offices, plus the cost of collecting and processing data contained in the records, may be prohibitive.

Research conducted by the University of Wisconsin on rural land transfers attempted to reduce the burdensome number of local records systems from which to collect information (9, 10). Wisconsin proposed to use State-level transfer data collected for use in assessment-ratio studies as a way to estimate land transfers on a national scale. The study examined the availability of transfer data in State offices; the type of transfers collected--arm's length, non-arm's length, or arm's-length-plus ^{8/}; classification of transfers by rural or urban location; and acreage, value, and ownership information contained in the records collected.

The Wisconsin research concluded that construction of a national rural land transfer database from State-level data systems is currently impossible. Not all States have systems to collect land transfer data and great variability exists among the type of sales data collected and maintained by existing systems. In other States, data are obtained but kept confidential.

^{7/} Most States responding to the Arizona Department of Revenue did not indicate any consideration for special financing. Supplemental data on adjustment procedures were obtained for some States from telephone interviews. While this study attempts to accurately describe practices followed to account for financing in all States, results presented should not be construed as a definitive report.

^{8/} Arm's-length-plus transfers are loosely defined as arm's length transactions and other transfers such as family exchanges and foreclosures but does not include transfers of partial interests in land, lease arrangements, and land contracts (10).

While this paper focuses upon transfer records as a data source for estimating the market value of land, findings presented support the Wisconsin study's conclusions regarding sales data collected in the tax assessment system. Closer analysis in this report of sales data used in assessment-ratio studies reveals the variety of methods and sources used to confirm sales information, the variance among States in the amount of data collected and verified, and the limited adjustments that are made to sales prices in questionable or atypical conveyances. Nevertheless, these findings do not necessarily imply that egregious fault exists in State data systems to serve purposes for which the systems were designed. The amount and reliability of sales data used for ratio studies may achieve the level of statistical precision necessary for States to adequately evaluate assessment accuracy and uniformity.

The sample and quality of sales data that are sufficient for assessment-ratio studies, however, may not be adequate for researchers attempting to use sales data as estimators of market value for property that has been transferred or for all other comparable property in the market area. Of particular difficulty is satisfying the requirement for statistical analyses that samples must be random; that is, each element in a population must have an equal chance of being selected for the sample. Researchers have been reluctant to claim that properties which have been transferred represent a random sample of all properties in the market and, therefore, have argued that observed sales prices do not indicate market value for all properties (4).

Prospects for Sales Data Development

The fixed location of land and principal use of land information for State or local government functions necessitates keeping data at the local level. Accordingly, data requirements, both quantity and standards, to carry out these functions are determined by State and local needs. Requirements of nonlocal data users, such as researchers' use of property transfer records, are not considered in data development decisions, and for understandable reasons. The time and expense required to obtain full and correct data for all sales are undoubtedly high. And who would bear these costs other than the governments collecting the data? While there is value assigned to accurate sales data by users of information other than tax officials, this value is not in the form of monetary support to the governments processing the data. Thus, governments have little incentive to improve data for uses beyond their immediate needs. Appeals to the professional pride of individual officials may provide some improvement to data in specific cases, but effort is difficult to induce without real or perceived benefit to the persons collecting data. At a minimum, data users may reduce the present limitations of transfer data by making local officials aware of the present and potential importance of sales data for various research uses.

A more enterprising effort to reduce the limitations of transfer data is to improve coordination between data collectors and users. A harmonious relationship between these groups can result in standard terms, definitions, and data elements to improve data quality and further facilitate use of transfer information. Achievement of these objectives is the basis for the Committee on State and Local Taxes of the American Bar Association to recommend that States adopt model legislation to provide essential data concerning real property transfers (1). The proposed legislation would require the grantor or grantee of real property to file a declaration which would state information such as

property description, intended use of the property, sale price, type of interest transferred, terms of financing, and so forth. In order to provide full access to the data by public officials and taxpayers, the proposed legislation suggests that the transfer declaration should be a public document.

The benefits of the proposed legislation are vast. Researchers attempting national examinations of land markets would achieve a database which provides uniform transfer information among States. Accordingly, uniform information would allow researchers to adjust sales data consistently between States. More importantly to local governments, the proposed legislation presents improved procedures for the collection of transfer information, which in many States are inefficient. More accurate transfer data would be helpful to local officials in levying property transfer taxes, developing assessment-ratio studies, and administering the total ad valorem property tax program.

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