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RESEARCH AND TECHNICAL ASSISTANCE

Annual Sales Ratio Study: Evaluation Georgia Department of Audits and Accounts Todd Paschal, Director

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Author:

Calvin A. Kent, Ph.D. AAS

Lewis Distinguished Professor of Business Emeritus

Marshall University, Huntington WV 25755

Member

West Virginia Property Valuation Commission

Table of Contents

Contents

Executive Summary	3
Introduction	4
The Assignment	6
Georgia Sales Ratio Studies	7
Sampling	8
Determining the Appropriate Sample Size	9
Selecting Sales for a Ratio Study	11
Ratio Studies Exclusions	12
Verification of Sales	14
Removal of Outliers	15
Augmentation of Sample Size	16
Adjustments to Sales	18
Sales Chasing	21
Stratification of the Data	24
Weighting of Strata	27
Use Valuation	27
Valuation of Agricultural Land	28
Valuation of Timber Land	30
Conclusions	31
Recommendations	32
IAAO Member - Code of Ethics and Standards of Professional Conduct	34

Executive Summary

In the State of Georgia property is to be assessed at 40 percent of market value for purposes of Ad Valorem taxation. County appraisal staffs select the sales to be utilized in the development of appraisal schedules and forward the proposed “assessment digest” to the County Board of Tax Assessors which has final say on the property tax digest submitted for taxation. In preparing the digest an internal county sales ratio study is completed comparing sale prices of properties with non-sale valuations. That digest goes to the Revenue Commissioner for review and approval who then forwards the information to the Department of Audits and Accounts (State Auditor).

The Auditor compiles an “equalized adjusted tax digest”. This work is to be finished according to *the Standards on Ratio Studies* of the International Association of Assessing Officers (IAAO). Part of the responsibility of the State Auditor is to prepare for all the State’s counties ratio studies utilized in determining if the required level of assessment and uniformity of assessment standards are being met. Also the State Auditor provides equalized adjusted property tax digests for each county and for the State as a whole.

This report is an evaluation of how the State Auditor conducts these ratio studies. The request came from the State Auditor’s office to the IAAO. The major conclusions reached in this evaluation are:

1. The State Auditor follows the IAAO Standard for: definition of market value, measures of central tendency, validation of sales, adjustments for sample property, sales chasing, reliability of sales sample used in ratio study, removal of outliers and statistical testing.
2. In cooperation with the State Revenue Commissioner the Auditor performs a monitoring function regarding the county assessments and individual county practices to ensure uniformity and reliability between and within counties.
3. The division of the State into a largely urban north and a largely rural south creates issues which the State Auditor resolves regarding assessment levels and uniformity.
4. Georgia is in the process of a slow recovery from a significant downturn in market values which has created issues with which the State Auditor has dealt in a satisfactory manner.
5. The State Auditor uses sophisticated statistical techniques for verification and reliability for the data used in the ratio studies.
6. New legislation is in place which will give the State Auditor greater flexibility in the performance of the required duties.

The overall activity of the State Auditor in preparation of the ratio studies is commendable. There are some areas of inquiry which should be given consideration

1. Reducing the number of restrictions placed on the selection of valid sales for use in the ratio. These are more extensive than required by IAAO and used in other states.
2. Care should be taken in collapsing classes of property into a single class for use in ratio studies. Since different classes of property are valued using different methods, combining them should be a last resort if additional sales samples are needed. Other methods of increasing sample size should be used first.
3. Using the new legislation procedures should be in place to allow for crossing county lines to obtain sufficient sales for use in the ratio study.
4. Consideration given to the use of market values in the ratio studies for agricultural and timberland. Reliance on the market values requires a large number of adjustments which place doubt on the validity of the result
5. In cooperation with the State Revenue Commissioner, a publication should be prepared for public consumption explaining how the county and state sales ratios are derived and the use that is made of them. This document would promote transparency and taxpayer understanding and acceptance.

Introduction

In Georgia assessed values for real property are to be at 40 percent of market value.¹ There are 159 counties in the State each of which functions as a separate assessment district. The responsibility for establishing an “equalized adjusted property tax digest” for each county rests with the State Auditor.² Among the duties of the Auditor is to “Establish for each county in the state the ratio of assessed value to fair market value of county property subject to taxation...”³

The work flow for establishing the sales ratio study is as follows:

- The staff in the assessor’s office has responsibility for determination of the sales to be included in the sample used for assessment purposes in their county. They are to follow guidelines laid down by the State Department of Revenue⁴. In doing so they are to follow the Appraisal Foundation and the IAAO Standards.
- The counties conduct their own sales ratio studies which are used to ensure level and uniformity of assessment. This is done under the guidance of the Georgia Department of Revenue.

¹ O.C.G.A. 48-5-3 & 10. As explained later in this report agricultural land and timber land are assessed at 75 percent of 40 percent.

² O.C.G.A. 48-5-274 (2)(b)

³ O.C.G.A. 48-5-274 (b)(8)

⁴ Department of Revenue, *Assessors Manual*, Section 560-11-10-.09 “Real Property Appraisal”

- This work is furnished to the County Board of Tax Assessors which has the final determination of the assessment placed on each parcel.⁵ The result is the county tax digest.
- These appraisals may be appealed and the results of resolved appeals are included in the county tax digest.
- When the number of unresolved appeals is sufficiently small, the resulting county tax digest is furnished to the County Tax Commissioner. The Tax Commissioner prepares the tax digest submission package and delivers it to the State Revenue Commissioner for review and approval.
- The Revenue Commissioner furnishes the information to the State Auditor who, "...shall establish on a continuing basis, no later than November 15 in each year, an "equalized adjusted property tax digest" for each county in the state and for the state as a whole for the current calendar year"⁶
- The Auditor may monitor the performance of the county assessors in establishing market values used in the determination of the "equalized adjusted property tax digest".
- The tax digest approved by the State Revenue Commissioner is used by the auditor to establish for each county and the State, "...The ratio of assessed value to fair market value ..." ⁷ (sales ratio study) This is completed using the IAAO Standards for measures of central tendency and for sales qualification so long as those do not conflict with State law⁸
- The auditor performs an evaluation of the digests and furnishes its equalized adjusted tax digest to numerous county offices, the State Revenue Commissioner and the State Department of Education.

This ratio for each county is used by the State Department of Education for purposes of distribution of intergovernmental aid to school districts for a procedure known as "indirect equalization" which consists of:

"The process of computing hypothetical values that represent the oversight agency's best estimate of taxable value, given the legally required level of assessment or market value. Indirect equalization allows proper distribution of intergovernmental transfer payments between state...and local governments despite different levels of appraisal between jurisdictions or property classes."⁹

In the performance of these duties the Georgia Department of Audits and Accounts (State Auditor) is to follow as nearly as possible, the *Standard on Ratio Studies* of the International Association of Assessing

⁵ Department of Revenue op. cit. Section 560-11-10-.01 "Purpose and Scope" (3)

⁶ O.C.G.A. 48-5-274(2)(b)

⁷ O.C.G.A. 48-5-274 (8)

⁸ O.C.G.A. 48-5-2

⁹ IAAO, (April 2013) *Standard on Ratio Studies*, International Association of Assessing Officers: Kansas City MO. p. 41 Hereinafter cited as Ratio Standards

Officers.¹⁰ Consistent with Georgia law a sales ratio, is, “The ratio of an appraisal (or assessed value) to the sale price or adjusted sale price of a property” and a sales ratio study is, “A ratio study that uses sales prices as proxies for market values”¹¹ The ratios for all classes are combined into a single weighted overall ratio for the jurisdiction results.

The Assignment

On April 3, 2015 The International Association of Assessing Officers (IAAO) submitted to the Georgia Department of Audits and Accounts a proposal “...to serve as external expert to review the Annual Sales Ratio Study produced by the Department of Audits and Accounts”¹². The issue as reported in the accompanying proposal concerned the recent law passed by the Legislature and now signed by the Governor which:

...requires assessors to set the current year assessed value of valid prior arms-length transaction tax parcels at a value not to exceed the sale price for one year (Legislative sales chasing). A major issue of the law is with sales validation and determining qualified arms-length transactions appropriate for inclusion into the annual oversight agency ratio studies since the definition was expanded to specifically include distressed sales, bank sales, auctions, etc.¹³

Further there was concern that while the more populated counties have sufficient sales data to perform a sales-ratio study which is statistically satisfactory, but that may not be the case for less populated, rural counties.

On April 20, 2015 a contract was extended to Calvin A. Kent Ph.D. AAS to complete the following:

1. Review the Annual Ratio Study conducted by the State of Georgia
2. Use the “IAAO Standard on Ratio Studies” and the IAAO “Standard on Verification and Adjustment of Sales” as a benchmark for best practices for the State of Georgia
3. Look for ways to find common market areas for rural jurisdictions to increase sample size

¹⁰ Ratio Standard op. cit.

¹¹ Ratio Standard p. 43.

¹² Letter Charley Colatruglio, Technical Assistance Project Coordinator IAAO to Todd Paschal, Director, Georgia Department of Audits and Accounts, April 3, 2015

¹³ Op. Cit. “Proposal” p.2

4. Look at expanding the timeframe of sales data used.
5. Review sale validation process
6. Determine if feasible to utilize data across assessor jurisdictional lines.¹⁴
7. IAAO will conduct the study off site. The study will require the use of electronically shared data, conference calls, and other means without travel to Georgia
8. IAAO will submit a written report with recommendation by the spring of 2015. (preliminary report May 20, 2015, client feedback May 27, 2015, final report May 29, 2015)

Georgia Sales Ratio Studies

A ratio study provides an estimate of the “true” value of the sold property compared to value of unsold property for the entire property in a jurisdiction or part of a jurisdiction. In statistics these are known as measures of central tendency.¹⁵ The three most common are the mean, median and weighted mean. A ratio study may indicate that instead of achieving the required estimate of market value to be used as assessed value, the sample of sales included in the study indicate valuations averaging below or above that percentage. When the value obtained from the sales ratio falls below an acceptable or legal standard, action should be taken to adjust values on unsold properties.

A sales ratio study shows the relationship between assessed values and market values.¹⁶ The Georgia Code defines “fair market value” as “... the amount a knowledgeable buyer would pay for the property and a willing seller would accept for the property at an arm’s length, bona fide sales.”¹⁷ IAAO uses a more detailed definition based on federal agency standards:

¹⁴ This step will be included in #3 above

¹⁵ GlouDEMANS, Robert and Richard Almy(2011) *Fundamentals of Mass Appraisal*, International Association of Assessing Officers: Kansas City MO, pp. 111-114. The mean is adding together all the sales ratios of each individual parcel in the sample and by dividing by the number of samples used. The median is the value of the middle value of the sale in the sample if there are an uneven number of samples or the average of the two most central individual values if there is an even number of samples. The weighted mean (weighted average) in which the each individual ratio in the sample is adjusted by a factor (usually sale price) before the mean is calculated.

¹⁶ International Association of Assessing Officers(1997) *Glossary for Appraisal and Assessment*, International Association of Assessing Officers, Chicago Il pp.115-116 hereinafter cited as Glossary

¹⁷ O.C.G.A. 48-5-2(3)

The most probable price (in terms of money) which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the assumption of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- The buyer and seller are typically motivated;
- Both parties are well informed or well advised, and acting in what they consider their best interests;
- A reasonable time is allowed for exposure in the open market;
- Payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto;
- The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.¹⁸

The process for conducting the ratio of assessed value to fair market value is provided in the Georgia Code (48-5-274(b)(8)) which calls for creating a ratio using a “representative number of sales” and establishing a measure of central tendency “for the county as a whole”. The newly enacted legislation (HB 202) inserts:

Any such sales price shall be adjusted upward or downward in a manner consistent with the Standard on Ratio Studies published by the International Association of Assessing Officer or its successors, as reasonably needed to account for the effects of price changes reflected in the market between date of sale and January 1 of the calendar year for which the equalized adjusted property tax digest it being prepared. Sales prices also shall be reduced by any portion there of attributable to personal property, real property exempt from taxation, or standing timber included in the sales transaction.

This recent legislation allows the State Auditor greater flexibility in adjusting sales prices than was the case prior to the effective date of the legislation which is January 1, 2016.

Sampling

The importance of a quality sample for the ratio study cannot be over emphasized, “Sampling is the foundation on which the ratio study is built.”¹⁹ For ratio studies to be valid the size of the sample used must be sufficiently

¹⁸ Glossary, p .85, Ratio Standards, “Market Value” p. 41

large to produce robust results. “There is a general relationship between statistical reliability and the number of observations in a sample. The larger the sample size, the greater the reliability.”²⁰ The importance of sample size was stressed by Gloude-mans, “The reliability of a ratio study depends on the representativeness of the sample. Representativeness, in turn is a function of several factors, particularly sample size.”²¹

In most urban areas there will be sufficient sales of residential and commercial property, but in rural and some suburban areas this may not be the situation. Economically Georgia can be divided into a more urban north experiencing growth and a more rural south which has not seen the same economic expansion. As a result selection and/or creation of a sufficient sample is more difficult..

Determining the Appropriate Sample Size

There are tests available for the determination of acceptable sample size. While “30” is often used as a minimum,²² there is no magic to that number. The IAAO Standard does state, “A ratio study sample of fewer than five sales tends to have exceptionally poor reliability and is not very useful;”²³

The result of the ratio study is reported as a measure of central tendency usually the median, mean or weighted mean.²⁴ IAAO recommends use of the median, “...because it gives equal weight to each ratio and is unaffected by extreme ratios...”²⁵ But when indirect equalization is used by an oversight agency, as is the case in Georgia, the “...weighted mean is the most appropriate...when estimating the total value of the jurisdiction.”²⁶ Unless the median is used, the other measures assume a normal distribution for the sales and a truly random selection of sales to be included in the study. Either one or both of these criteria are usually not met. But if the sample is large enough it can safely be assumed that any of the above are valid.

¹⁹ Gloude-mans, Robert (1999) *Mass Appraisal of Real Property*, International Association of Assessing Officers: Chicago IL. cit. p. 227

²⁰ Ratio Standards 6.1 p. 16

²¹ Gloude-mans, op. cit. 271

²² Gloude-mans, op cit. p. 272

²³ Ratio Standard 3.4, p.9

²⁴ Ratio Standard 5.3.1-5.3.3. p. 13.

²⁵ Ratio Standard 5.3.4, p. 13

²⁶ Ratio Standard 6.1 p. 27

The IAAO Standards advance using the Coefficient of Dispersion (COD) to measure reliability.²⁷ It is a relatively simple calculation and does not assume a normal distribution of sales in the sample. For that reason it is the most widely used measure of the validity of a measure of central tendency. It measures the “average absolute difference” of the ratios from the median. Low CODs (15.0 or less) are indications of “good” appraisal practice.²⁸ The State Auditor makes use of the COD employing the criteria established by IAAO as a measure of data reliability.²⁹

This problem of reliability also can be approached by use of the Coefficient of Variation (COV). It is based on the use of the standard deviation from the mean expressed as a percentage. It provides the distribution around the mean of the sample sales stated as a percentage. If a COV is calculated to be 20 percent at the 1 percent COV level, 68 percent of the ratios will lie in that interval.³⁰ Unless there is a large number of sales the COV will be biased by outliers. The wider the COV the less reliance can be placed on the mean to represent the true mean for the sample.

An approach commonly used as is the case in Georgia is to construct a confidence interval for the sales ratio result.

This interval brackets the unknown population parameter (values of all properties in the strata) for the sample statistic with a specified (chosen) degree of confidence. When the interval includes a desired assessment level or a performance standard range around the desired level, equalization adjustments are not warranted.³¹ (Brackets this authors)

While confidence intervals can be determined for any of the measures of central tendency, the mean confidence interval is often employed. If a requirement for 95 percent confidence is set³² then the confidence interval will be plus (+) or minus (-) five (5) percent of the calculated mean for the sample. If the calculated mean lies within that interval, then the sales ratio can be accepted with 95 degree of confidence.

²⁷ Ratio Standard, 5.4.1

²⁸ Gloude-mans and Almy op cit. p. 227

²⁹ Ratio Standard, Table 1-3, p.17

³⁰ At the 2 percent (+/-) COV 95 percent of the ratios will lie within the range and at 3 (+/-) percent COV 99 percent will fall in the range.

³¹ Ratio Standard, 6.5, p. 29

³² Gloude-mans, op. cit. p. 274

Another problem with sales ratio studies is “vertical inequalities.” These occur when low value properties are appraised at a higher percentage of market value than are high value properties. This may happen because sales of high value properties are less frequent or the difficulty in appraising higher value properties due to their unique features. As provided in the standards, “Appraisals made for tax purposes should be neither regressive nor progressive”.³³ The most frequently used statistic to measure vertical inequality is the Price Related Differential (PRD). This measure is employed in Georgia and is commonly used throughout the nation.

In recent years IAAO and other appraisal organizations have advocated the replacement of the PRD with the coefficient of price related bias (PRB). This statistic, “...provides a more meaningful and easily interpreted index of price related bias than the PRD. It is obtained by regressing percentage difference from the median ratio on the percentage difference in value.”³⁴ The PRB can be gauged by comparing confidence intervals obtained from regression analysis.

Selecting Sales for a Ratio Study

IAAO makes clear, “The reliability of a ratio study depends in part on how well the sales used in the study reflect market values. The underlying principle for review of sales data is to optimize the sample size, but at the same time to exclude sales that provide invalid indicators of market value”³⁵ There are sales which should not be included in the ratio study. IAAO points out, “It is important to remember that all sales should be considered as candidates as valid sales unless sufficient information can be documented to show otherwise.”³⁶

Assessment standards provide that not all sales are valid and those which are not should be removed from the study. IAAO standards list the following as “invalid” sales for ratio analysis.³⁷

1. Sales involving government agencies and public utilities
2. Sales involving charitable, religious or educational institutions
3. Sales involving financial institutions
4. Sales between relatives or corporate affiliates

³³ Ratio Standard op. cit. 5.6, p. 14

³⁴ Ratio Standard, op. cit. 5.6 p.24.

³⁵ Ratio Standard, op. cit. 3.4, p.9

³⁶ IAAO (November 2010) *Standard on Verification and Adjustment of Sales*, International Association of Assessing Officers: Kansas City MO, 2 p.5 (Hereinafter cited as Sales Standard)

³⁷ Ratio Standard A.4.1 p. 49

5. Sales settling an estate
6. Forced sales
7. Sales of doubtful title

Also listed are “special condition sales.

1. Trades
2. Partial interests
3. Land contracts
4. Incomplete or unbuilt common property
5. Auctions

In addition, the use of

- Multiple-Parcel Sales,
- Acquisitions or Divestments by Large Property Owners,
- IRS 1031 Exchanges, and
- Internet Transactions³⁸

These are doubtful candidates for inclusion in a ratio study. While there may be cases where some of these mentioned above can be included, they should be “verified thoroughly and used with caution”. Guidelines for when inclusion of these sales may be permissible are provided in the IAAO Sales Standard.³⁹

Ratio Studies Exclusions

Georgia has a longer list of properties which may be excluded from the ratio study:⁴⁰ In addition to those on the IAAO Standard the following are given:

- Franchise businesses
- Mobile home
- Built as and used as (service garage turned into a restaurant, residential house used as an office
- Multi use properties (properties with different land and building classes
- Residential over 3,600 sq. ft., less than 600 sq. ft. or more than 42,000 sq. ft. for 2 story
- Dry cleaners, economy hotel, old service stations with gas pumps not in use.
- Percentage good is less than 50%

³⁸ Ratio Standard A.4.3-6 See also Sales Standard. 5.3-4 pp. 10-12.

³⁹ Sales Standard, 7 pp.14-18

⁴⁰ State Auditor’s Office, “2013 Sales Ratio Study Instructions”, Department of Audits and Accounts, Atlanta GA.

These rejections are not typical of other state ratio requirements. IAAO Standards also do not include these as invalid.⁴¹ In Georgia, these exclusions may not be automatic since the assessor has, “The ability to perform an accurate appraisal.”⁴² The State Auditor does not appraise dry cleaners, economy hotels, old service stations or properties where the percentage good in less than 50 percent for inclusion into the ratio study unless there are sufficient verified sales of similar properties to justify their inclusion. In many instances sufficient sales for these types of properties are not available so appraisals of more representative property types are substituted. However, valid sales of these property types are included in the ratio studies.

The Georgia law does allow more flexibility in some cases than does the IAAO Standard. In defining an, “arm’s length, bona fide sale” it reads: “... transaction which has occurred in good faith, without fraud or deceit carried out by unrelated or unaffiliated parties, as by a willing buyer and a willing seller, each acting in his or her own self-interest, *including but not limited to a distress sale, short sale, bank sale, or sale at public auction.*”⁴³ In another portion of the Code, “The tax assessor shall apply the following criteria in determining the fair market value of real property... Bank sales, other financial institution owned sales or distressed sales, or any combination thereof of comparable real property”.⁴⁴ Inclusion of any of these in a ratio study could violate both IAAO Standards unless detailed inquiry and adjustments were made.

But the guidance from the State Auditor specifically could exclude some bank owned sales. In a downturn the bank could flood a market with foreclosed properties. “To ensure that bank-owned properties are not overrepresented in the ratio study, a maximum level (equal to the % of bank owned properties by digest class located in the county on January 1st of the digest year being studied) will be included in the study.”⁴⁵

But recent declines in real estate markets has led to a modification by IAAO. “Sales in which a financial institution is the seller typically should be considered as potentially valid for model calibration and ratio studies if they comprise more than 20 percent of sales in a specific market area.”⁴⁶ The Sales Standard also would allow for short sales (where the lender takes less than the mortgage) if these sales, taken with sales involving financial institutions, meet the 20 percent of all market sales after through verification and adjustment.⁴⁷

⁴¹ Sales Standard, 5.3 p. 10, Ratio Standard A.4.1, pp 49-50

⁴² 2013 Sales Ratio Study Instructions, p.13

⁴³ O.C.G.A. 48-5-2 (.1) italics this authors

⁴⁴ O.C.G.A. 48-5-2(B)(iv)

⁴⁵ State Auditor, “Bank Owned Sales” Department of Audits and Accounts, Atlanta GA

⁴⁶ Sales Standard, 5.3.4, p.11

⁴⁷ Sales Standard 5.13 p. 13

Verification of Sales

Sales data must be verified if it is to be used in a ratio study. The accuracy of the sales data determines the reliability of the ratio built on that data.⁴⁸ There are several methods in the IAAO Standard for verification of sales.

- Personal contact with one or preferably both buyer and seller to obtain the particulars of the sale. This can be accomplished either by personal contact or by telephone. Telephone confirmations have limitations listed in the IAAO Standards:
 - Inability to prove caller's identity
 - Need for trained staff
 - Difficulty in reaching the party to a sale.
- Sales verification questionnaires is the most frequently used method of verification. The accuracy of sales verification depends on the responsive rate for returned questionnaires. Problems related to sales questionnaires as listed by IAAO are:
 - Response is not immediate
 - Additional contact may be needed
 - Information is limited to what is stated on the sales verification questionnaire.
 - Expense of printing and mailing.

IAAO provides a model Sales Verification Questionnaire⁴⁹ with additional questions related to specific situations.⁵⁰ The Department of Revenue for Georgia does provide guidance which corresponds to the IAAO Standard.

Other preferred information to be considered is the motivations of the buyer and seller, as obtained from actual interviews of the parties to the sales. Adjustments to the sales to be considered by the appraiser include, but are not limited to, time of sale; location; physical characteristics; partial interest not conveyed; trades or exchanges included; personal property included; leases included; incomplete or unbuilt community property; atypical financing; existing covenants; deed restrictions; environmental, economic, governmental and social factors

⁴⁸ Sales Standard 5.1

⁴⁹ Sales Standard Appendix A, p.30

⁵⁰ Sales Standard, Appendix B. Questions for Specific Situations, p.31

affecting the sale property and the subject parcel. These adjusted qualified sales may then be used to appraise the subject parcel.⁵¹

What forms the counties use to comply with this rule or how well verification of sales at the county is actually done is beyond the scope of this analysis.

Removal of Outliers

One of the earliest steps in a ratio study is to remove from the sample of sales those properties which have very high or low ratios compared to the others in the sample.⁵² These “outliers should be trimmed prior to validation of the sale.”⁵³ If included in the sample, outliers distort the aggregate ratio unless the median is the measure of central tendency being used. The median which is unaffected by extreme outliers is usually the preferred measure of central tendency.⁵⁴ If there are a sufficient number of high valued properties, consideration should be given to placing them in a separate strata after trimming.⁵⁵

Since the ratio study in Georgia is being used for indirect equalization the “weighted mean” is the appropriate measure.⁵⁶ It is preferred because it uses weighting by dollar value. Use of the weighted mean requires that outliers be eliminated otherwise the result will be biased by high-value properties.

IAAO provides methods for trimming outliers. Under one method outliers are identified as, “...associated with ratios that fall outside 1.5 multiplied by the IQR (Inter Quartile Range).”⁵⁷ This method is employed in Georgia provided that the trimming does not result in more than 10 percent of the samples in any particular digest class would be automatically trimmed.⁵⁸

⁵¹ Georgia Department of Revenue, *Manual for Property Appraisal*, 560-11-10-.09, p.6 Georgia Department of Revenue, Atlanta GA

⁵² Ratio Standard 5.2 p.12

⁵³ Sales Standard 2 p.5

⁵⁴ Ratio Standard 5.3.4, p.13

⁵⁵ Ratio Standard 4.2.2 p.26.

⁵⁶ Ratio Standard 6.1, p.27

⁵⁷ Ratio Standard, B.1 p. 53

⁵⁸ State Auditor “Outlier Trimming” Department of Audits and Accounts, Atlanta GA

Another method of eliminating outliers commonly used in statistical testing, is to exclude ratios which fall more than two standard deviations from the mean.⁵⁹ The trimming of outliers is particularly important as most distributions of individual sales ratios do not represent a normal distribution. In fact, most sales ratios are skewed to the right due to the presence of high price properties.⁶⁰ Trimming, particularly using confidence intervals, can create a distribution which is closer to normal.

Augmentation of Sample Size

If sample size is determined to be inadequate (as discussed later in this report) there are means to enlarge the sample.

- “Restratification”. If properties in two or more strata are relatively homogenous they could be combined or a different strata could be used to gather more samples.
- Extending the period from which sales are drawn. This method is seen as the most practical and effective method it does require that time adjustments be made.
- Enlarging the sample by validating previously rejected sales. This process consists of doing a more detailed investigation as to why properties may have been excluded. If the only reason was administrative expedience, Gloudemans views this as appropriate.

Many sales involve nonmarket financing, substantial amounts of personal property, or other special circumstances that make the nominal sale price unrepresentative of the market value of the real property. Such sales can be rejected for ratio studies when there are enough open-market, arms-length sales that do not require adjustments. However, when this is not the case, assessors can and should augment the supply of usable sales by adjusting sales prices... Commercial O.C.G. properties, in particular, often require sale price adjustments...⁶¹

- Imputing appraisal performance. Under this approach the results obtained from other strata can be used to value another. This method embodies a high level of risk unless the alternate strata are essentially similar. In which case the strata probably should have been combined at the start.

While not specifically mentioned the IAAO Standard as a means of expanding the sales used in a strata, crossing jurisdictional line is often appropriate. As in Georgia when counties are used as the assessment districts, there are small rural counties where properties which are not in the same county could be stratified on the basis of location,

⁵⁹ Gloudemans, op. cit. pp.54-55

⁶⁰ Gloudemans and Almy, p 119-120

⁶¹ Gloudemans, op. cit., p. 248

sale price, soil classification, property class etc. Crossing jurisdictional lines requires the properties are adjacent or nearby and there are no geographical, topological or manmade barriers present. If two adjacent counties are having difficulty producing sufficient sample size, then both can use the values determined in this manner.

If property sold lies in two counties, the assessed value should include the value of the parcel as a whole not assessing the property as two separate properties and the result divided between the two based on area. When taxing entities are located in more than one county (school districts, municipalities), crossing boundary lines is the best way to insure uniformity and avoid discrimination among taxpayers. When cross jurisdictional assessments are allowed and the property falls in two jurisdictions each jurisdiction allocates based on boundaries the value assignable to that county.

One of the goals of having a sales ratio study is to provide for equalization of values of similar properties within each county.⁶² Housing developments, business parks, shopping centers and industrial facilities along with farmland and timberland do not respect county boundaries. Nor is their value determined by jurisdictional borders

In Georgia crossing county boundaries is allowed for property assessment. In its directions to County Assessors the Revenue Department notes, “They should collect and analyze sales data from other jurisdictions having market and usage conditions similar to their county for consideration when insufficient sales exist in the county to evaluate a property type, especially large acreage tracts.”⁶³ This procedure is also provided by the State Auditor. “Pooling data from counties with small sample sizes may be done if the counties are similar at the time of analysis.”⁶⁴

In performing time adjustments the State Auditor uses the methods provided by the IAAO Standards particular the sales ratio trend analysis approach.⁶⁵

⁶² Gloudemans, op. cit. pp. 217-18

⁶³ Georgia Department of Revenue, *Manual for Assessing Property*, 560-11.09, 1 (ii) p. 6

⁶⁴ State Auditor, “Time Adjustment Factors”, Department of Audits and Accounts, Atlanta GA

⁶⁵ State Auditor, “Time Adjustment Factors”

Adjustments to Sales

The relevant question arises as to what the IAAO Standard allows for upward and downward adjustments and how these adjustments are to be constructed. If needed adjustments for atypical financing and time of sale (market conditions) should be made in that order prior to any other adjustments.

- Adjustments for financing of sales. A sale price may not reflect the market value of the property if “creative” financing is involved. These sales may be included if an appropriate adjustments to the sale price are made Among the financial arrangements for which financing must be adjusted include:
 - Seller and lender are the same party such as under a land contract or a contract for deed. An adjustment can be made by comparing the interest rate on the transaction to commercial interest rates of the same term on similar properties.
 - Buyer is assuming an existing mortgage where the contract rate on the assumed mortgage is less than the prevailing rate for the same term on similar properties
 - Seller pays “points” which are a percentage of the sale price which are usually paid by the buyer to obtain a loan. The sale price can be adjusted downward by the value of the points paid by the seller.
 - The property is sold under a “gift program” where the lender provides the buyer extra money to be used for improvements to the property. The amount of the “gift” should be deducted from the price paid for the property.⁶⁶

In Georgia guidelines have been established to determine an acceptable range of interest rates 4.00%- 9% for vacant property of all classes; 2.5%-6.00% for improved residential and for agricultural, commercial and industrial improved property 4%-5% with rates from 9% to 16 % for “unique” properties. These guidelines may not represent the situation in all counties and can be modified by local Department of Audits field appraisers.⁶⁷ These are wide ranges and should be verified each year in each county by a survey of lenders. Competition among lenders in an area will generally result in interest rates which are nearly equal for any type of loan given the level of risk.

⁶⁶ Ratio Standard, A.4.1-7

⁶⁷ 2013 “Study Instructions”, p. 46

- Adjustments for timing of sales. In many markets activity changes over the course of an assessment year. Sale prices from earlier in the assessment period may be higher or lower than what the same property would have sold for at the end of the period. IAAO Ratio Standard calls for “Sales prices also should be adjusted to the assessment date to account for time trending.”⁶⁸

There are several factors which cause these changes.

- Changes in the macro-environment as happened in the 2006-2009 period. Speculation in the market and the bundling of mortgages cause housing prices to decline dramatically. Particularly hard hit were urban areas which had seen vigorous real estate construction running up to the crash. Data from the Auditor’s Office indicates that the northern more densely populated counties suffered declines from 2008-2013 ranging from 45 to 25 percent. Prices in the rural, southern counties did not experience declines.
- If property reappraisal had occurred during the study year then adjustments reflecting any changes in values for both sold and unsold properties should be made to reflect the changes resulting from the reappraisal. In Georgia all real property is revalued on a three year cycle with each county being completed every third year. Changes in values disclosed during a reappraisal can be used to establish time adjustments.
- Changes in micro-environment do result in changes in property values during an assessment year.
 - Annexation or deannexation of property causes property values to change particularly if property taxes are capitalized into selling prices.
 - Government projects in an area announced during the assessment period will influence properties. To the extent these have not been anticipated, announcement of a new school building or a new highway intersection during the study year have been known to influence surrounding property values. Property affected by changes in zoning should not be included in the ratio study.
 - Announcement of a new shopping mall or an upscale residential community by private developers does also affect values. Urban renewal and “gentrification” of urban areas may also cause price variations. It should be noted that closure of private companies or abandonment of strip malls will have a negative effect. These effects can and do quickly influence values.

⁶⁸ Ratio Standard,4.1, p. 25

- Social changes also have an influence if they occur with little anticipation. Riots and unrest due to violent or fatal incidents can have near disastrous effects particularly if looting and property destruction results.
- IAAO Ratio Standards specify the period for the inclusion of sales, “...should be as short as possible and, ideally, no more than one year. A longer period may be required to produce a representative sample...” In view of the scarcity of representative sales in some cases. “...the sales used in ratio studies can span a period of as long as five years provided there have been no significant economic shifts or changes to property characteristics and sales prices have been adjusted for time as necessary.”⁶⁹
- There does not appear any provisions in the Ratio Standard which would covers sales which occur after the study period to be included in the sample or in trending adjustments. This type of adjustment also appears contrary to the Georgia Code which reads in part. “Notwithstanding any other provision of this chapter to the contrary, the transaction amount of the most recent arm’s length bona fide sale in any year shall be the maximum allowable for the next taxable year.”⁷⁰ But under the newly passed legislation forward trending using sales after the assessment date may be allowed provided the proper adjustments for time are employed.
- Methods for adjusting for time. The Ratio Standard states, “There should be a program to track changes in price levels over time and adjust sale prices for time as required. This step is an important component of a ratio study”.⁷¹ As noted by Gloudemans. “Adjusting sale prices for changes in market conditions, which are reflected by changes in price levels over time, can be an effective way of increasing the number of sales available for use in mass appraisal models, ratio studies and increasing the accuracy of the analysis.”⁷²
 - Methods which can be employed as Time Adjustment Factors (TAFs) are summarized below.
 - While adjustments can be made either by month, quarter or year, they are usually expressed on a monthly basis to assure the most precise adjustments. Since properties being used for comparison sell at different times during a year or quarter, quarterly and annual adjustments will not allow for accurate time adjustments.

⁶⁹ Ratio Standards 4.4, p. 10

⁷⁰ O.C.G.A. 48-5-2 (3)

⁷¹ Ratio Standards A.5.4 P. 51

⁷² Gloudemans, and Almy, op. cit., p. 147. See full discussion of TAFs pp. 147-165.

- “Paired sales” and “grouped sales” have some limited validity. As the similarity among properties, while close, may differ in respects which are more important than the passage of time.
- Resale of the same properties, “...often provide a good indication of the changes in market conditions over time”.⁷³ But generalizing to other properties or groups of properties casts doubt on the accuracy of the method.
- A more accurate means of time adjustment is to use simple regression analyses by a standard statistical package or allowed by the CAMA system. Plotting sales prices for similar properties produces a “best fit” line which can be subject to statistical validation. This approach is limited in usefulness as it only compare value and time and ignores other factors.
- Of all TAFs the most accurate are from multiple regression analysis (MRA). This allows for “including date-of-sale as a variable” along with other variables which influence sale price.⁷⁴ In ratio studies the known data are sales prices and property characteristics with the unknown being market values. Statistical packages and CAMA systems include the ability to do MRA.

In doing time adjustments it is imperative that the parcels included to be as similar as possible. Dissimilarities can be compensated for when multiple regression is used as deviant variable will be identified. The importance of stratification must be repeated.

Sales Chasing

One major issue related to adjusting sales exists when “sales chasing” is present. As described in the Ratio Standard, this results, “...when the local appraisal jurisdiction knows which properties are in the ratio study appraisal sample and adjusts local appraised values on some or all of these properties to achieve better ratios without making similar adjustments to unsampled properties.”⁷⁵ When this is done the assessed value on the sold property is adjusted to near or at the sales price to improve the outcome of the ratio study. Sales chasing appears

⁷³ Appraisal Institute (2008) *The Appraisal of Real Estate 13th edition*, Appraisal Institute: Chicago IL p. 333. For a more complete discussion of time trending see pp. 333-336

⁷⁴ Gloudemans, op.cit., pp164-196 for a more complete discussion

⁷⁵ Ratio Standard 8.5, p .32

in many states where sales ratios are used in indirect assessment. As noted in the IAAO Ratio Standard, “Influence of sales chasing can be difficult to detect or prevent.”⁷⁶

IAAO provides methods which can be used to determine or correct for sales chasing:⁷⁷

- Under the “two study technique”, two studies are performed for the same assessment year. The first uses sales before the appraisal was completed. The second uses sales on the date the assessment role is completed. If the results from the two studies are not similar there is an indication of sales chasing.⁷⁸ This approach requires access to the assessed value on the date of sale.
- The other method is “comparison of average value changes”. Under this approach changes in values of sold and unsold properties over time are compared. If the changes in values for the sold properties are being increased faster than for the unsold properties within the same strata then there is support for sales chasing. Again statistical tests can be used to determine if the difference in rates of change has any statistical significance.
- An additional method is to compare changes in the “average unit values”. Using this method changes in values per front foot per acre, per square foot etc. for sold and unsold property would be compared. Any noted difference would be subject to statistical tests of significance.
- When multiple regression analysis is available, a comparison can be completed using validated sales to estimate market values of sold properties which are similar and in the same strata. If there was found a statically significant difference when time is used as a variable, sales chasing would be present. This method allows for the construction of confidence intervals to determine if Assessment standards provide that not all sales are valid and those which are not should be removed from the study.

When sales chasing exists the county digest should be appropriately adjusted with those sales excluded or redone with the assessed value before the change in valuation being used.

In Georgia a series of statistical tests are used when a sales ratio study is thought to be “non-representative” due to sales chasing.⁷⁹ The steps are summarized as follows:

⁷⁶ Ratio Standard 3.2.3.1, p .23

⁷⁷ Gloude-mans, op. cit. pp. 309-316

⁷⁸ The Mann-Whitney test will indicate if the two ratios are significantly different.

⁷⁹ State Auditor, “Detection of Practices that Produce Non-representative Ratio Studies” Department of Audits and Accounts, Atlanta GA

- In all counties a ratio distribution is used to determine sales chasing. If an unexpected ratio distribution is present, Mann-Whitney and Chi-Squared statistical tests will be performed...an unexpected ratio distribution will be defined as a ratio distribution having in excess of 25.10% of the qualified sales ratios falling within the range of plus or minus 2% of the median ratio. This corresponds to a minimum achievable COD of approximately 5 percent.”

The IAAO Standard uses the mean to calculate the standard deviation of 5 percent. This provides a “narrow” range for allowable ratios.⁸⁰ For that reason it is rarely used in mass appraisal although it is appropriate for markets which are active and have a large number of valid sales in a strata. The Standard does mention a COD of 4 percent which is a bit more confined than the 5 percent used in Georgia procedures.

- For the counties identified in the step above as having unexpected ratios, the Georgia system, “The cells of the Chi-Squared data base should have an expected minimum value of 5. If this statistic is not achieved, the Fisher Exact statistical may be substituted for the Chi-Squared test. The property classes (residential, commercial, agricultural, and industrial) are tested separately assuming a minimum of 30 inclusions in the sample. “The two-tailed test with a p-value less than .01 will be declared significant.” This step exceeds the requirements of the IAAO Standard. Use of the Fisher Exact test is primarily for small samples with the Chi-Squared test being more appropriate for larger distributions.⁸¹
- The last step is for counties with a significant “p-value” from either of the above tests. In this case the Mann-Whitney test is used to “...compare percent value changes for sold and unsold properties.

Use of these steps presents an excellent model for determining how robust the ratio study is and for the detection of sales chasing.

⁸⁰ Ratio Standard, E.4, pp. 59-60

⁸¹ McDonald, John, “Fishers exact test of independence”, in *Handbook of Biological Statistics*
<http://www.biostathandbook.com/fishers.html>, accessed May 10, 2015

Stratification of the Data

In performing ratio studies one of the most overlooked but extremely important activity is to properly stratify the data. “Stratification divides all the properties within the scope of the study into two or more groups or strata. Stratification facilitates a more complete and detailed picture of appraisal performance and can enhance sample representativeness”.⁸² If dissimilar properties are lumped together, the reliability of a ratio can be questioned. Use of that ratio, particularly in indirect equalization, can be of limited validity.

There are several ways in which sales data can be stratified. These correspond to those used for the selection of neighborhoods IAAO explains, “A neighborhood is a group of properties defined by natural man-made, or political boundaries and sharing locational and physical similarities”.⁸³ While geography is one criteria frequently used, it is not the only one and sometimes not the best. According to IAAO Standard, “...in large jurisdictions stratification by market areas is generally more appropriate for residential properties, while stratification of commercial properties by either geographic areas of property subtypes (e.g., office retail, and wholesale/industrial) can be more effective.”⁸⁴

There is a potential conflict between stratification and sample size. This problem is most acute in rural areas. While stratification should involve more than one single property characteristic (location, age etc.), for assessing jurisdictions where there are limited sales, general classifications may have to be used (residential, commercial, agricultural, industrial) as is the case in Georgia.

Ratio analysis often provides for not all sales but only a representative sample of sales to be used in the analysis. This is the practice in Georgia.⁸⁵ IAAO states, “... a random sample is one in which each item in the population has an equal chance of being included in the sample.”⁸⁶ When only a sample of a strata is used in the ratio study two possible sources of error are present.

- The strata itself may not be properly selected and properties included in the strata which do not meet uniformity criteria. If the strata contains significantly dissimilar properties then drawing a random sample, will not be accurate.

⁸² Ratio Standard 3.3, p. 9

⁸³ Gloudemans, op. cit. p. 16

⁸⁴ Ratio Standards 3.4, p. 24

⁸⁵ O.C.G.A. 48-5-274(b)(8)

⁸⁶ Gloudemans, op cit. p.227

- The sample used must be truly random and free from bias. Some types of properties sell more frequently than others and the faster turnover properties may be over represented. Stratification by age can reduce this source of sample bias.

The IAAO Ratio Standard provides four criteria for establishing representativeness⁸⁷.

1. “Appraisal procedures used to value the sample parcels are similar to procedures used to value the corresponding population.” If sampled parcels are valued at a different time than the unsampled parcels, this standard is violated. If some commercial properties are valued primarily using the cost approach and others using the income approach then a representative sample is not likely to result. Further, properties assessed in one neighborhood should not be used in a sample for a strata which does not include that neighborhood.
2. “Accuracy of recorded property characteristics data for sold property does not differ substantially from that of unsold property.” This criteria is not met if property characteristics are only updated when property is transferred.
3. “Sample properties are not unduly concentrated in certain areas or types of property whose appraisal levels differ from the general level of appraisal in the population.” This is a requirement of uniformity where some properties may be overrepresented in the sample compared to the population of the strata. “Because the objective of ratio studies is to measure appraisal performance, violations of the randomness assumption only become serious when properties overrepresented in the sample tend to be appraised more (or less accurately than those that are underrepresented.”
4. “Sales have been appropriately screened and validated” This criteria is discussed in more detail later in this report.

There is a tendency in some jurisdictions to include all valid sales in a strata rather than use a representative sample. IAAO Standard comments, “...it may be acceptable to use all qualified sales.”⁸⁸ While this inclusiveness can be criticized on the amount of data which would be used, computerized system can handle the amount of data this involves. For assessment jurisdiction with few sales including all valid sales is appropriate.

⁸⁷ Ratio Standard, 4.5, p. 11

⁸⁸ Ratio Standard 7.3, p. 30

On the other hand, creating too many strata is also undesirable: “Care must be taken not to over-stratify, that is, to create strata which are too small to achieve statistical reliability”.⁸⁹ When over-stratification takes place the result may be a strata too small to pass any test for statistical reliability. If strata size presents a problem then similar strata may be combined.

In Georgia the Auditor provides the Revenue Commissioner with all the results of the ratio study. But use of a single “point estimate” usually the median, appears to be used for indirect equalization. Use of the median is consistent with indirect equalization as practiced in other states, but it raises questions about compliance with IAAO Standards where the weighted mean is seen as preferable.

Ratios for residential, commercial, agricultural and industrial property are calculated for the Revenue Commissioner. In Georgia collapsing of property classes is allowed⁹⁰. While residential should stand alone, Georgia allows for collapsing of classes as follows:

- Commercial and industrial,
- Agricultural, commercial and industrial may be collapsed if insufficient samples exist for a class to stand alone.

This type of combination does not fit well with IAAO Standard.⁹¹ Although the Standard reads, “If sufficient sales or appraisals are not available for a given stratum, it should be combined with similar strata.” The key word is “similar”. Since agricultural property is valued on use, (see discussion of agricultural property below) commercial property on cost or income and industrial on cost or income, they do not appear to be “similar”. There are other ways to obtain sufficient sized samples. But where it is impossible to obtain sufficient validated sales, this form of collapsing may be the only alternative available.

The Georgia Auditor has established a method for determining minimum strata sample size. It requires, “The minimum strata sample size will be established by analyzing prior year ratio study COD data...containing a minimum of 30 qualified samples...the minimum strata sample size for the next years ratio study will be the median of these sample sizes or 12 samples...”⁹² Further 95 percent confidence intervals on non-stratified sales.

⁸⁹ Ratio Standard 3.5.2, p. 24

⁹⁰ State Auditor, “Collapsing Property Classes” Department of Audits and Accounts, Atlanta GA

⁹¹ Ratio Standard 3.5.2, p.24

⁹² State Auditor, “Minimum Strata Sample Size”. Department of Audits and Accounts, Atlanta GA. The method used is from the IAAO Standard of July 1990 and not the most current standard which does not include this methodology.

When average confidence intervals exceed plus or minus 5 percent at the 95 percent limit additional samples may need to be found.

Weighting of Strata

Indirect equalization involves estimation of, “. . . the proper tax base despite appraisals that are higher or lower than legally required in certain jurisdictions.”⁹³ When indirect equalization (using ratio studies to estimate property wealth for distribution of school aid and other programs) is being employed, it is appropriate to weight the strata within the jurisdiction receiving the money. While equalization among strata is desired, and a ratio study can be used for that purpose, it should not be assumed that a single ratio for a jurisdiction is correct unless weighing has been applied.

This weighting can be completed using either number of parcels in each strata or, as preferred, or by market value. Under the first option a property having 15 percent of the number of parcels would be given a weight of 15 percent. Under the market value system, a strata where the value of sold property represented 15 percent of total value of all property in the jurisdiction would be weighted accordingly in determining the ratio for the jurisdiction as a whole.⁹⁴

Use Valuation

Since the 1960’s there has been the development of “use valuation” for both agricultural land and timberland. All states now use some form to use valuation in place of market prices for evaluation of agricultural and timber properties for ad valorem purposes. As a result, owners of agricultural and timer land receive a significant reduction in taxable value than what would exist under market sales.⁹⁵

While IAAO has not promulgate specific standards regarding valuation of agricultural property or timberland, the content of Workshop 260, *Valuation of Agricultural Land*,⁹⁶ provides useful guidance on how this property is to be assessed. In rural, jurisdictions agricultural land is often the primary source of value as is the case in many South Georgia counties. IAAO has recognized the need for different methods of assessment for agricultural

⁹³ Ratio Standard, 2.2.2, p. 22

⁹⁴ Gludemans, op. cit. pp.306-309

⁹⁵ Anderson, John and Richard England, (2014) *Use Value Assessment of Rural Land in the United States*, Cambridge MA: Lincoln Institute of Land Policy.

⁹⁶ IAAO (2012) “Workshop 260: Valuation of Agricultural Land. International Association of Assessing Officers: Kansas City MO. hereinafter cited as Ag Land

property and timberland. Primarily because agricultural land near urban growth areas has pushed the values of these properties significant above their earning capacity.⁹⁷ There was also the political desire to keep property taxes from forcing farmers “off the land”.

Valuation of Agricultural Land

All states now have some system of assessing agricultural property (including timber) at its use rather than market value.⁹⁸ When agricultural property is valued in use rather than market, the ratio study should show if uniformity has been achieved based on use value rather than market value. Unless sales of agricultural land can be separated into land which has no value other than its use in agriculture, then sales of agricultural land are a poor representation of use value and should be replaced with an income approach.

In Georgia Fair Market Value (FMV) for agricultural land as determined for the ratio study is not the legislative current use taxable value.

There are reasons why sales of agricultural land do not represent its use value.

- There are a myriad of government price support, conservation programs and below market loans which influence the value of agricultural land in the market. Using market sales would require a rigorous process to eliminate the influence of these from any ratio study.
- The growth of urban areas has led to speculation in agricultural land even beyond the immediate proximity of the area itself. Agricultural valuation allows for these properties to be held for long periods of time at lower levels of taxation.
- The exponential growth of farming by large corporate entities allows for above market prices to be paid for land acquisition with the agricultural preference offsetting, at least in part, the cost.
- Agricultural land is acquired to “complete” a holding. The buyer is willing to pay a premium price just to acquire a selected piece to make the farm more efficient.

Further agricultural property is often placed in conservation use programs which limit the amount of property tax which is levied. This is the situation in Georgia where “Conservation Use Land Valuation” is in place.⁹⁹ Under this program the farmer must apply for the classification and the property must remain in agricultural use for at least 10 years. If it is transferred to other use before that time a “rollback” penalty is applied. Agricultural land which is not under this contract does not receive the benefit.

⁹⁷ Ag. Land S 1-5 F

⁹⁸ Ratio Standard 5.1 p. 26

⁹⁹ O.C.G.A. 48-5-7.4

Under the income approach for agricultural land, net income is capitalized to determine value. This involves either “cash rent” or potential net income given the soil capabilities for crops or livestock¹⁰⁰ Data is available for making these calculations.¹⁰¹ The best method is to use multiple regression analysis which will produce statistics both on level and reliability of values.

It is important that only sales of property for agricultural use be included or that regression analysis be employed with location as a variable. Improvements to the land should be excluded from the sale as well as any personal property. Georgia also allows for a Preferential Assessment of agricultural properties (in addition to the current use assessment). With a Preferential Assessment covenant the agricultural land is assessed at 75 percent of the 40 percent used for other property. This produces an effective assessment ratio of 30 percent which must be considered when agricultural land is included in the county sales ratio study. A penalty is also applied for early removal from a Preferential Assessment covenant which is ten years.

Including agricultural properties valued on an income approach rather than market sales, has implications for sales ratio analysis. This is particularly true when indirect equalization is used to determine intergovernmental transfers. If this is the situation then the correct comparison should be with Fair Market Value (FMV).

Georgia’s method of valuation of agricultural land is codified in law.¹⁰² It requires that all agricultural property be placed on the roles at its fair market value (FMV). That value is subject to adjustment as noted above. “In Georgia FMV for agricultural land is used in the ratio study for determining the accuracy of agricultural appraisals by county Tax Assessors. When calculating the adjusted equalized tax digest for distribution of education funding, the exemption representing the difference between FMV and the legislated current use table value is removed in order to accurately represent the taxable digest value.’

The basic soil types have been mapped according to productivity for given crops and pastureland. Continuing care must be taken to exclude any sales which have a speculative value based on future use in urban or suburban development. There may not be sufficient sales of “true” agricultural land particularly if sales to adjacent owners are excluded as could be the case in Georgia. When market sales are considered so many adjustments may have to be completed that their use in a ratio study is not advised. When this is the case, the net income approach should be considered as the primary indicator.

¹⁰⁰ Ag. Land 5. 3-19

¹⁰¹ Since 2008 the National Agricultural Statistics Service (NASS) has published cash rental rates by state by agricultural regions

¹⁰² O.C.G.A. 48-5-7.1ff

Valuation of Timber Land

Considering the importance of timber to the economy of Georgia, property taxes are based on use as timberland and not on market value when properties are enrolled in one of the current use covenants. Standing timber is taxed only once following its “harvest”¹⁰³. Standing timber is taxed at 100% of its market value. Timberland itself is valued based on the capacity to support timber production as “bare land”.¹⁰⁴ This is to be reflected by using validated comparable sales based on soil type.

A significant portion of timberland in Georgia is covered under the Forest Land Protection Act.¹⁰⁵ Under this program the farmer must apply for inclusion in the program and agree to keep the property in timber use for 15 years. If it moves into other uses it loses the valuation and a rollback penalty is imposed. There may be a major problem with the county assessors not removing the standing timber from the valuation as only the value of the land is to be determined as is required.¹⁰⁶ This complicates using market sales for inclusion in a ratio study. For the same reasons stated for agricultural land, market sales probably do not reflect the use value of the property.

IAAO does not include any standards or procedures for assessing timberland. In the Workshop timberland is included with the methods used for agricultural land. Since standing timber is exempt until harvested, soil capacity to support timber growth is the determining factor to be used in valuation.

As is the case with agricultural land, when used in a sales ratio study the FMV is the appropriate inclusion. But for tax purposes the use valuation adjustments for the property are the basis for the levy.

Appropriate adjustments to the FMV have been made in order to insure the ratio study truly represents the taxable property base in the county necessary in indirect equalization for distribution of State funds primarily to education.

¹⁰³ O.C. G.A. 48-5-274 (3)

¹⁰⁴ O.C.G.A. 48-5-7

¹⁰⁵ O.C.G.A. 48-5-7.7

¹⁰⁶ Interview with Todd Pasqual, Director, Georgia Office of Audits and Accounts by Calvin Kent May 19, 2015

Conclusions

Based on the above analysis the following conclusions appear appropriate:

1. Under Georgia law the Department of Audits and Accounts (State Auditor) has the responsibility as serving as the primary oversight agency for the development of the sales ratio study for the state. In the performance of that duty it is to follow the IAAO *Standard on Ratio Studies*.
2. The State Auditor follows this Standard as well as other relevant IAAO standards including *the Standard on Verification and Adjustment of Sales*.
3. Among the requirements of the IAAO Standards the following were found satisfactory:
 - Definition of market value
 - Measurers of central tendency
 - Validation of sales
 - Sample size
 - Adjustments to sales for sample property
 - Sales chasing
 - Removal of outliers
 - Reliability of sample used in ratio study
 - Statistical testing
4. There are 159 counties in Georgia each of which has its own responsibility for deciding the sales to be included in their internal sales ratio study and the adjustments to those sales.
5. Along with the State Revenue Commissioner the State Auditor performs a monitoring function with regard to county assessments and can audit individual county practices.
6. Georgia is in the process of slow recovery from the large decreases in the market values of property which resulted from the Great Recession. This has created issues with the valuation of properties particularly in the urban areas of the State with which the State Auditor is dealing in a satisfactory manner.
7. Economically the State is divided into a predominantly urban north and an agricultural south which has provided challenges for the appraisal community and the State Auditor in achieving uniformity among the state counties
8. The State Auditor has a highly functional relationship with the State Revenue Commissioner which is mutually beneficial to both.
9. The State Auditor uses sophisticated statistical techniques for verification and reliability of sales for the data used in the sales ratio report.

10. There are provisions for the stratification of data which not only meet IAAO standards, but will allow for proper development of classes and sub-classes of property
11. In the capacity of “monitor” the state Auditor has the authority and ability to work with county appraisal offices to insure quality and uniformity of assessments.
12. While IAAO has no standards related to the assessment of farmland and timberland, the procedures use the fair market value (FMV) as the basis for appraisal modified as needed by the income approach.

Recommendations

1. For purposes of transparency and public acceptance, the State Auditor and State Revenue Commissioner should produce a document which clearly explains in layman’s language the relationship between the two offices and how they interact with county authorities to produce the final tax obligation due. This should include:
 - The flow of information from the county to the two state agencies.
 - The responsibilities of each and their relationship to county appraisal offices.
 - Clear definitions of the terms and procedures.
 - How state aid to local schools is determined by the reports produced by these two agencies.
 - How the taxpayer’s ultimate bill is influenced by the actions of these agencies.
2. Consideration should be given to reducing the restrictions on qualified sales to be used in the sample particularly for rural counties where sales are hard to find. Such action would bring the ratio study in closer compliance with the IAAO Standards.
3. Further consideration should be given of how sales by banks and other financial institutions should be used in the development of the sales ratio. The new legislation requires consideration of these sales in the ratio study. As these are not often valid market sales, this should be done with great caution and in accordance with the IAAO Standard and on a very limited basis.
4. Be careful in the collapsing of strata not to include classes of property which are valued using different methodologies. Eliminate the combination of industrial, agricultural and commercial property for sales ratio study purposes. Use other means to increase class size to sufficient levels.
5. Develop specific procedures for stratification of classes and subclasses of property for use in areas with active market sales.

6. Crossing county boundaries is a means of finding common market areas for rural jurisdictions. Provide specific guidelines for county officers in determining property values across jurisdictional lines for comparable properties when insufficient sales are available. Methods are available, as discussed in this report. Crossing county boundaries is already acceptable under Georgia law and procedures. Using similar sales in other counties by county appraisal staff would be particularly beneficial for valuation of agricultural and timberland.
7. Establish an improved methodology for valuing agricultural and timberland in the sales ratio study. The quest to find and use “valid” market sales may not result in useable comparables. When many adjustments must be made to market sale price of agricultural land and timberland, their usefulness is compromised.
8. Work with the Revenue Commissioner to make sure the weighted mean is properly used in indirect equalization.
9. Develop a monitoring system to insure that standing timber value is not included in the sale prices contained in the ratio study.
10. Use the PRB in place of the PRD for determining vertical inequality. The State Auditor already makes extensive use of regression analysis and the PRB should be added.
11. The Auditors’ office already makes use of advanced statistical techniques for analysis. This practice should be continued and updated as new approaches become available.

IAAO Member - Code of Ethics and Standards of Professional Conduct

Preamble

As a matter of fundamental principle, IAAO members should adhere to the highest ethical standards. Public trust in our performance is the foundation of our credibility. Assessment professionals support IAAO because they trust us to be good stewards of their resources, to uphold rigorous standards of conduct and to serve as a catalyst for excellence in the assessment profession.

Nonprofit organizations must earn this trust every day. It is up to all members of the IAAO – Executive Board members, committee members, volunteers, staff and the general membership – to demonstrate their ongoing commitment to the core values of integrity, honesty, fairness, openness, respect and responsibility. The purpose of this Code of Ethics and Standards of Professional Conduct is to establish guidelines for assessing officials and all members of the International Association of Assessing Officers (IAAO) and set forth standards by which to judge an IAAO member whose conduct is in question. Members shall conduct themselves in a professional manner that reflects favorably upon themselves, the organization, the appraisal profession, and the property tax system, and avoid any action that could discredit themselves or these entities.

Adherence to the IAAO Constitution, Bylaws, Procedural Rules and Code of Ethics is the minimum standard of expected behavior. We must do more, however, than simply obey the rules. We must embrace the spirit of the governing documents, and go beyond stated requirements, making sure that what we do is matched by what the membership perceives and expects. Transparency, openness and responsiveness to member's concerns must be integral to our behavior.

Statement of Values

The Code of Ethics of the International Association of Assessing Officers is built on a foundation of widely shared values.

These values include our:

- Commitment to the improvement of the property tax system worldwide;
- Accountability to the public good;
- Commitment to excellence in assessment administration beyond property tax law;
- Respect for the worth and dignity of all individuals;
- Promotion of inclusiveness, fairness and diversity;
- Obligation to organizational transparency, integrity and honesty;

- Practice of responsible stewardship of resources; and
- Dedication to excellence, and maintaining the public trust.

The values are reflected in the following Code of Ethics of the International Association of Assessing Officers.

Definitions

For definitions of terms relating to appraisal practice, refer to the definitions section of the Uniform Standards of Professional Appraisal Practice (USPAP).

Exceptions

If compliance with or adherence to any Canon or Ethical Rule set forth in the IAAO Code of Ethics and Standards of Professional Conduct would constitute a violation of the law of any jurisdiction, such Canon or Ethical Rule shall be void and of no force or effect in such jurisdiction.

In stating each individual Canon or Ethical Rule, no attempt has been made to enumerate all of the various circumstances and conditions that will excuse an IAAO member from strict observance; however, the IAAO recognizes that illness, acts of God, and various other events beyond the control of an IAAO member may make it inequitable to insist upon a strict observance in a particular case. When an IAAO member, in the exercise of reasonable care, commits a violation due to illness, acts of God, or other circumstances beyond his or her control, it is expected that the Ethics Committee will act in a manner that will avoid an inequitable result.

Inasmuch as there are other remedies under applicable federal, state/provincial, and local laws, nothing in this Code shall apply to the conduct of a member toward his or her employees and other workers in the member's assessment office or appraisal business, including, but not limited to, employment discrimination.

Canon 1: (Professional Duties)

Members shall conduct their professional duties and any activities as a member of IAAO in a manner that reflects credit upon themselves, their profession and the organization.

Ethical Rules

ER 1-1 It is unethical for members to conduct their professional duties in a manner that could reasonably be expected to create the appearance of impropriety.

ER 1-2 It is unethical for members to accept an appraisal or assessment -related assignment which they are not qualified to perform.

ER 1-3 It is unethical for members knowingly to fail in performance of their duties according to

applicable laws and regulations or in the uniform application of such laws and regulations.

ER 1-4 It is unethical for members to refuse (by intent or omission) to make available all public records in their custody for public review, unless access to such records is specifically limited or prohibited by law, or the information has been obtained on a confidential basis and the law permits such information to be treated confidentially. Assessing officers must make every reasonable effort to inform the public about their rights and responsibilities under the law and the property tax system.

ER 1-5 It is unethical for members to refuse to cooperate with public officials to improve the efficiency and effectiveness of the property tax in particular and public administration in general.

ER 1-6 It is unethical to engage in misconduct of any kind that leads to a conviction for a crime involving fraud, dishonesty, false statements, or moral turpitude.

ER 1-7 It is unethical to perform any appraisal, assessment, or consulting service that is not in compliance with the IAAO governing documents or the Uniform Standards of Professional Appraisal Practice.

Canon 2: (Truthfulness)

Members shall not make public statements (written or oral) that are untrue or tend to mislead or deceive the public in the course of performing their professional duties.

Ethical Rules

ER 2-1 It is unethical to provide inaccurate, untruthful, or misleading information to solicit assessment-related assignments or to use misleading claims or promises of relief that could lead to loss of confidence in appraisal or assessment professionals by the public.

ER 2-2 It is unethical to claim an IAAO professional designation unless authorized, whether the claim is verbal or written, or to claim qualifications that are not factual or may be misleading.

ER 2-3 It is unethical to fail to recognize the source (s) of any materials quoted or cited in writings or speeches.

Canon 3: (Conflict of Interest)

Members shall not engage in any activities in which they have, or may reasonably be considered by the public as having, a conflict of interest.

Ethical Rules

ER 3-1 It is unethical for members to accept an appraisal or assessment-related assignment that can

reasonably be construed as being in conflict with their responsibility to their jurisdiction, employer, or client, or in which they have an unrevealed personal interest or bias.

ER 3-2 It is unethical to accept an assignment or responsibility in which there is a personal interest without full disclosure of that interest.

ER 3-3 It is unethical to accept an assignment or participate in an activity where a conflict of interest exists and could be perceived as a bias, or impair objectivity.

Complete IAAO Governing Documents, can be located using the following link:

[http://www.iaao.org/wcm/About_Us/Governing_Documents/wmc/About_Us_Content/Governing_Documents.](http://www.iaao.org/wcm/About_Us/Governing_Documents/wmc/About_Us_Content/Governing_Documents)