

# STATE OF INDIANA

DEPARTMENT OF LOCAL GOVERNMENT FINANCE



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TO: County Assessors

FROM: J. Barry Wood, Assessment Division Director *JBW*

SUBJECT: 2009 Pay 2010 Annual Adjustment Guidance

DATE: April 23, 2009

The purpose of this memorandum is to provide additional guidance in regard to the annual adjustment process for 2009 pay 2010 and 2010 pay 2011. Please refer to the two (2) prior memoranda disseminated on February 4, 2009 and February 18, 2009 for detailed guideline information (copies of the memoranda can be found at <http://www.in.gov/dlgf/2444.htm>).

As we enter the fourth year of the annual adjustment process, **the “trending” process must be conducted more expediently and timely to result in “on-time billing” in 2009 pay 2010.** Although speed is paramount, remember the Department of Local Government Finance’s Third Core Value of “Excellence in All We Do.” In sum, be quick but do not cut corners.

The following information and processes are not a requirement for 2009 pay 2010, because we recognize many counties are finalizing their 2009 pay 2010 annual adjustment work. In fact, we have been informed by several counties that they currently are finishing their trending work for 2009 pay 2010 and intend to submit a final ratio study to the Department on or before June 1, 2009. To date, the Department has received ratio studies for two (2) counties: Rush and Hancock. The Department is tracking the information described below for 2009 pay 2010, and is requiring it for the **2010 pay 2011 annual adjustment process.**

## **RATIO STUDY SUBMISSION BY COUNTY**

- It is highly recommended that the county conduct an internal ratio study before submitting their values to the Department. If a ratio study is completed, the Department would appreciate being forwarded a copy.

## **TRENDING SIMPLIFICATION**

- The annual adjustment rule (50 IAC 21) does not require an assessor to change the assessment of every property every year. Assessments only need to be changed when there is a clear indication based on market evidence that valuations no longer meet assessment level and uniformity standards, or when there are significant physical changes to a property.

## **SAMPLE SIZE**

- Neighborhoods must have five (5) or more sales if the sales comparison approach is used to value improvements or land. For greater precision, a larger sample size is needed. Therefore, in accordance with International Association of Assessing Officers (IAAO) guidance, **the Department will require that adequate sample sizes be used.**
  - There are several methods of determining land values in the absence of adequate sales in a neighborhood, including but not limited to, the following:
    - Use land values from a similar neighborhood that has vacant land sales to support the land base rate.
    - Extract the land value from valid sales of improved properties.
    - Expand the period from which sales are drawn and adjust for time as necessary.
- If commercial and industrial improved properties have a limited number of sales (e.g. less than five (5) sales in the strata), the county must use the other approaches to value as outlined in 50 IAC 21-5-2 (i.e., Marshall & Swift, income data, MLS data, etc...).

## **PERIOD FROM WHICH SALES ARE DRAWN**

- See February 4, 2009 memorandum, *Annual Adjustment ("Trending") Guidance*.

## **PROPERTY CHARACTERISTICS**

- Property characteristics data must be updated continually in response to changes brought about by new construction, new parcels, remodeling, demolition, and destruction. The most efficient way of doing this involves the use of building permits.
- The basic physical characteristics of each property used in the ratio study must be the same when assessed and when sold.

## **RENTAL PROPERTIES**

- For rental properties with one (1) to four (4) units, the Gross Rent Multiplier approach should be used. The resulting workbook values should reflect this value.

## **ADJUSTMENTS TO SALES PRICE ON SALES DISCLOSURE FORM**

- Adjustments to sales price must be documented on the sales disclosure forms (e.g. personal property; points paid; etc.).

## SALES SCREENING

- Sales used in a ratio study must be screened to ensure they reflect the market value-in-use of the real property transferred.
  - Specific objectives of sales screening are to ensure the following:
    - Sales used in ratio studies reflect market value-in-use.
    - Sale prices reflect only the market value-in-use of the real property transferred and not the value of personal property, financing, leases, or other parcels of real property.
    - Only sales that occurred during the period of analysis are used.
    - Sales are excluded from the ratio study only with good cause (for example, when they compromise the reliability of the ratio study).
- **Every arm's length, open market sale that appears to meet the conditions of a market value-in-use transaction must be included in the ratio study unless:**
  - Data for the sale are incomplete, unverifiable, or suspect; or
  - The sale fails to pass one or more specific tests of acceptability as described in the *Standard on Ratio Studies*.
- The sales analyst should take the position that all sales are candidates for the ratio study unless “**sufficient and compelling information**” can be documented to show otherwise.
- No “cherry picking” will be permitted. Cherry picking is when assessors manipulate the data used in ratio studies and regard only sales that closely match assessed values as valid.

## RATIO STUDY STATISTICAL MEASURES

- The level of assessment, as determined by the median ratio, must fall between 0.90 and 1.10 for any class of property. However, confidence intervals, rather than the median ratio itself, will be used to determine compliance with this benchmark (see below).
- The Coefficient of Dispersion (COD) standard for improved residential property is 15.0 or less. Income-producing property, vacant land, and other real property have a COD standard of 20.0 or less.
- The Price-Related Differential (PRD) must be between 0.98 and 1.03. However, in accordance with the *Standard on Ratio Studies*, if there are less than twenty (20) sales in a particular township or class of property, the Spearman Rank test will be relied upon to determine if vertical equity has been met for that stratum. This will resolve the well-known sensitivity of the PRD to outliers in small samples.

- Confidence intervals are a way of capturing the variation in a sample of properties. For example, the median ratio generally is relied upon as the best estimate of the overall level of assessment for a given property stratum. However, the sample median itself is not an exact estimate of the population median, only the assessor's "best guess." The accuracy of this estimate improves when more sales are used. For example, one would have more confidence that the sample median represented the actual level of assessment if the stratum contained fifty (50) sales rather than five (5) sales. **In other words, the larger the sample, the more reliable the calculated statistics.**
- Confidence intervals are a way of capturing this variation and ensuring that a county is not unfairly penalized when only a small number of sales can be found for a given stratum. A confidence interval consists of a lower and upper bound for the median ratio and a given level of confidence that the actual median ratio is between those two bounds. In all cases, the level of confidence used by the Department will be 95 percent (two-tailed).
- For example, the median ratio may be 0.88, which is outside of IAAO standards. However, the 95 percent confidence interval may range from 0.83 to 0.96, meaning that while the best guess of the median is in fact 0.88, we also are 95 percent confident that it is somewhere between 0.83 and 0.96. In other words, our best guess may be wrong; all we can say with 95 percent confidence is that the median is somewhere between 0.83 and 0.96. In this case, because the median could be as high as 0.96, the Department would not reject the ratio study as non-compliant, even though the best guess of the median ratio is 0.88.
- The Department will no longer reject a ratio study simply because the median ratio of one (1) or more strata is outside of IAAO standards. Rather, a ratio study only will be rejected if the entire confidence interval (both lower and upper bounds) falls outside of the IAAO standards. For example, if the confidence interval was 0.81 to 0.85, the Department still would reject the ratio study. This is in accordance with the *Standard on Ratio Studies*, which clearly states that ". . . **noncompliance with appraisal level standards cannot be determined without the use of confidence intervals or hypothesis tests.**" Standard 7.3 (1999); Standard 5.3 (2007).
- **Assessors do not need to calculate confidence intervals for their median ratios prior to submitting data, whether or not a ratio study is submitted.** Most available statistical packages can calculate confidence intervals for the median ratio easily and automatically (e.g., SPSS or R). A table and procedure for this calculation can also be found in Appendix C of the *Standard on Ratio Studies* (2007). For assessors not wishing to perform this calculation, note that the confidence interval always will be within compliance if the median ratio itself is within compliance. In other words, if the median ratio is between 0.90 and 1.10, any confidence interval will be compliant and no further work needs to be done.
- The goal is to achieve an overall assessment level equal to 100 percent of market value. However, ensuring uniformity in assessment levels among strata also is important. Therefore, the **assessment level of each stratum (class, neighborhood, etc.) must be within 5 percent of the overall assessment level of the county.**

- For example, if the overall assessment level of the county is 1.00, but the assessment level for residential property is 0.93 and the assessment level for commercial property is 1.06, the county is not in compliance with this requirement.
- The Department will conclude that this standard has been met if 95 percent (two-tailed) confidence intervals about the median ratio for each of the stratum fall within 5 percent of the overall assessment level for the county.

### **OVER-STRATIFICATION**

- See February 4, 2009 memorandum, *Annual Adjustment (“Trending”) Guidance*.

### **OUTLIERS**

- See February 4, 2009 memorandum, *Annual Adjustment (“Trending”) Guidance*.

### **MULTIPLE PARCEL SALES**

- A multiple-parcel sale is a transaction involving more than one (1) parcel of real property. If the assessor needs to include multiple-parcel sales, he/she first should determine whether the parcels are contiguous and whether the sale comprises a single economic unit or multiple economic units.
- Regardless of whether the parcels are contiguous, any multiple-parcel sale that involves multiple economic units generally should not be used in ratio studies unless adequate adjustments for these factors can be made to the sale price because of the likelihood that these sales include some plottage value or some discount for economies of scale.

### **TIME ADJUSTMENT OF SALES**

- Time series analyses can be used to develop a multiplier or index factor to update existing assessed values or to adjust sales prices for individual properties to the valuation date.
- Four methods used to develop time trend factors in assessment are:
  - Value per-unit analysis;
  - Re-sales analysis;
  - Sales/assessment ratio trend analysis; and
  - Inclusion of time variables in sales comparison models.
- Indexing is a common method used to update cost tables to reflect current cost.
  - **One current method of indexing is to use an economic indicator such as the consumer price index (CPI).**

- Time adjustments may be developed through the analysis of known sale prices within a geographic area, such as a neighborhood or postal code, and over a specified time reference.
- See *Mass Appraisal of Real Property*, Robert J. Gloudemans (IAAO 1999), Chapter 6; and *Standard on Automated Valuation Models (AVMs)* (IAAO 2003), Standards 4.4 and 5.5.

## **FORECLOSURES**

The IAAO recently has published a couple of position papers on the issue of foreclosures and “Market Value Principles in a time of Economic Crisis” (see <http://www.iaao.org/uploads/IAAOSalesVerificationv7.0.pdf> and [http://www.iaao.org/uploads/FIReSales\\_3.pdf](http://www.iaao.org/uploads/FIReSales_3.pdf)).

## **WORKBOOK FORMAT**

The Workbook submitted from the county must contain the following columns/information for 2010 pay 2011:

- Parcel Number (18 Digit Parcel Number)
- Neighborhood Code
- Township
- 2008 Property Class Code
- 2008 Certified Land AV
- 2008 Certified Improvement AV
- 2008 Certified Total AV
- 2009 Property Class Code
- 2009 Workbook Land AV
- 2009 Workbook Improvement AV
- 2009 Workbook Total AV
- Land Annual Adjustment Trending Factor (If Applicable)
- Improvement Annual Adjustment Trending Factor (If Applicable)
- Land and Improvement Annual Adjustment Trending Factor (Combined) (If Applicable)
- Which Approach Was Used: Sales/Cost/Income

All of the IAAO’s technical standards, including the *Standard on Ratio Studies*, are available at <http://www.iaao.org/documents/index.cfm?Category=23>

If you have any questions, please contact your Assessment Division Field Representative or Barry Wood at 317.232.3762 or [Bwood@dlgf.in.gov](mailto:Bwood@dlgf.in.gov).