Ratio Studies

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January 2019

Ratio Studies

- What is a Ratio Study?
- Deadline
- Time period for sales
- Sales - All sales are candidates
- The sample is a representation of the population
- Components of the Ratio Study

Ratio Studies

➢ Definition:
"Ratio study" is used as a generic term for sales-based studies designed to evaluate assessment performance. It is a study of the relationship between appraised or assessed values and market value-in-use as reflected by sales or other information.
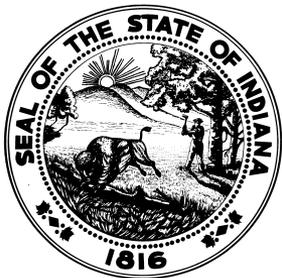50 IAC 27-2-10

Ratio Studies

The Ratio Study is used as a "measurement and evaluation of the level and uniformity of mass appraisal models" and as a "determination of whether administrative or statutory standards have been met." – IAAO, Standard on Ratio Studies

Ratio Studies

What is the "Ratio" in Ratio Studies?

$$\frac{Assessed\ Value}{Sales\ Price}$$

Ratio Studies

- Ratio Study compares assessment to sale prices of similar properties.
- Properties are grouped and the ratios are analyzed to see if assessments reflect market value-in-use.
- Ratio shows how close the assessment of a sold property is to its sale price.

Ratio Studies

$$\frac{Assessed\ Value}{Sales\ Price}$$

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$$\frac{\$100{,}000}{\$150{,}000} = .67$$

<1 = Underassessed

$$\frac{Assessed\ Value}{Sales\ Price}$$

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$$\frac{\$100{,}000}{\$80{,}000} = 1.25$$

>1 = Overassessed

Ratio Studies

Time Period

- Due March 1.
- January 1, 2018 – December 31, 2018
- May use up to 5 years of sales.
- If more than one year of sales, time adjustment must be performed using all comparable older sales.

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Sales

- 50 IAC 27-4-7(f) All sales are candidates for the ratio study unless sufficient and compelling information can be documented to show otherwise.

Ratio Studies

- After the sales submission has received a compliance status, we will use those files to generate a list of potentially valid sales. This includes all sales in the 300-599 class code that are >$1,000 and do not have a special circumstance marked. These are sales we expect to see in the Ratio Study.
- Sales without a special circumstance marked must have an explanation on the Sales Reconciliation.
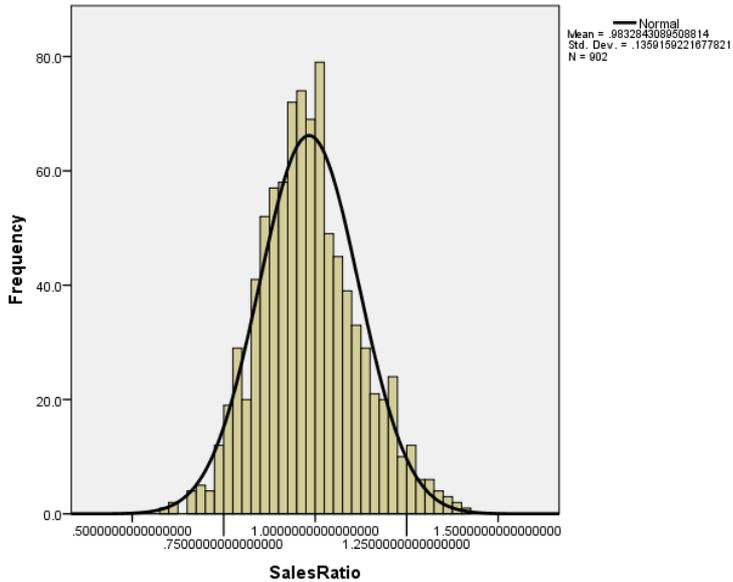
Ratio Studies

Ratio Studies

Sample vs. Population

- "The distribution of ratios in the population cannot be ascertained directly and appraisal accuracy can very from property to property. By definition, a ratio study sample would be representative when the distribution of ratios of properties in the sample reflects the distribution of ratios of properties in the population."
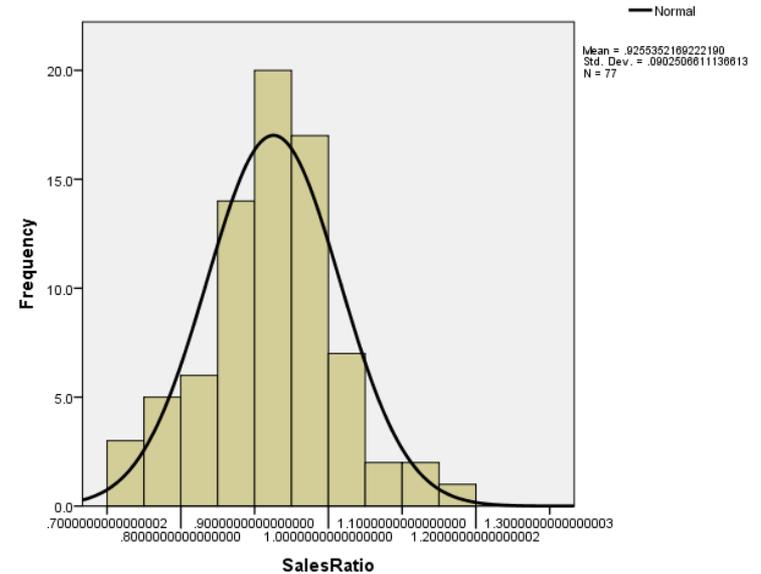
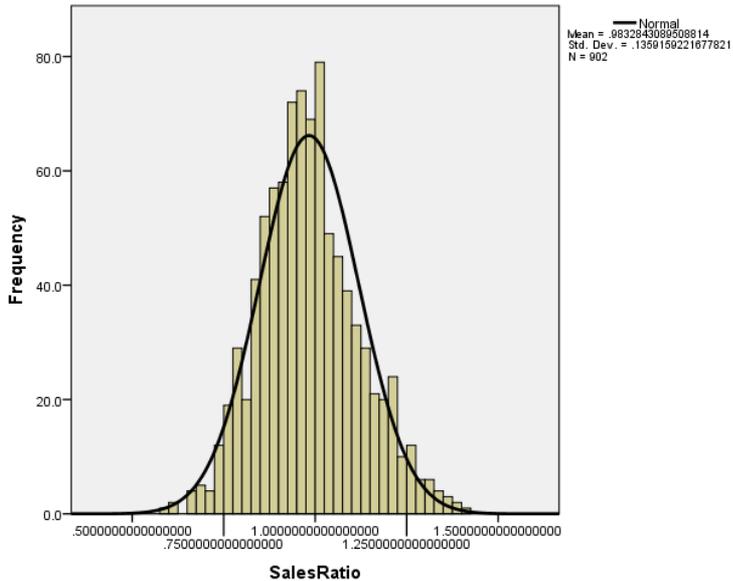# Ratio Studies

Population

Sample

Ratio Studies

(cont.) "Representativeness is improved when the sample proportionately reflects major property characteristics present in the population of sold and unsold properties. As long as sold and unsold parcels are appraised in the same manner and the sample is otherwise representative, statistics calculated in a sales ratio study can be used to infer appraisal performance for unsold parcels."
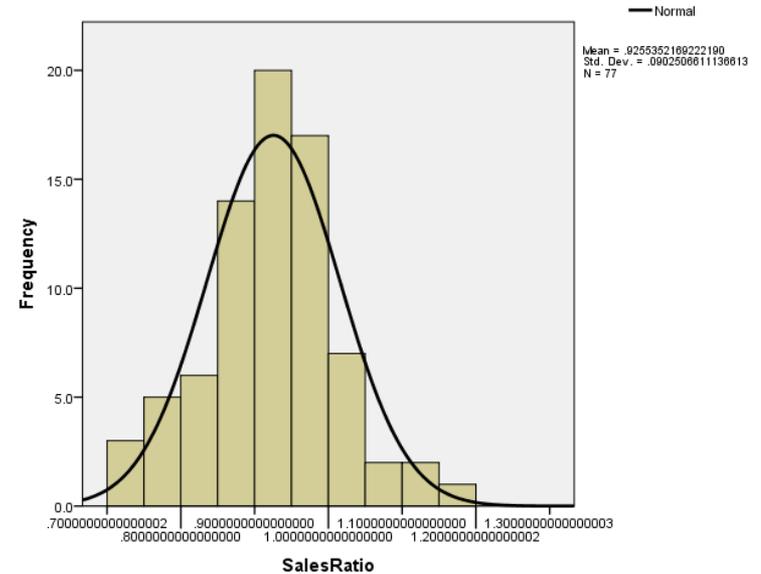
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Population

Sample

Ratio Studies

(cont.) "However, if parcels that sell are selectively reappraised based on their sale prices and if such parcels are in the ratio study, uniformity inferences will not be accurate (appraisals appear more uniform than they are). In this situation, measures of appraisal level also will not be supportable unless similar unsold parcels are appraised by the model that produces the same overall percentage of market value (appraisal level) as on the parcels that sold."

Ratio Studies

(cont.) "Assessing officials must incorporate a quality control program; including checks and audits of the data, to ensure that sold and unsold parcels are appraised at the same level."

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(cont.) "Operationally, representativeness is improved when the following occur:
1. Appraisal procedures used to value the sample parcels are similar to procedures used to value the corresponding population.
2. Accuracy of recorded property characteristics data for sold property does not differ substantially from that of unsold property.

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(cont.)

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.

4. Sales have been appropriately screened and validated.

- IAAO – Standard on Ratio Studies

Ratio Studies

Statistical Measures

- Level (ratio): 0.90-1.10

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Statistical Measures

- Coefficient of Dispersion (COD):
  - <15 for residential improved
  - <20 for other real property

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Statistical Measures

- Price-Related Differential (PRD): 0.98-1.03
- *Note: Spearman Rank rather than PRD is used for groupings with fewer than 20 sales.

Ratio Studies

Components of the Ratio Study Submission

- Ratio Study
  - Formatted Tab
  - MultiParcelSales Tab
  - Separate tab for each major property class
  - Summary Tab

Ratio Studies

Components of the Ratio Study Submission
- Workbook
- Sales Reconciliation
- Narrative Template (optional in 2019, required in 2020)

Ratio Studies

Formatting

- Must be properly formatted before Ratio Study will be reviewed.
- Ratio Study Guidance includes sample spreadsheets with examples of correct and incorrect formatting.

Valuable Reading

- Standard on Ratio Studies – IAAO https://www.iaao.org/media/standards/Standard_on_Ratio_Studies.pdf
- Standard on Verification and Adjustment of Sales – IAAO https://www.iaao.org/media/standards/Verification_Adjustment_of_Sales.pdf
- Standard on Mass Appraisal of Real Property – IAAO https://www.iaao.org/media/standards/StandardOnMassAppraisal.pdf
- Indiana Administrative Code: 50 IAC 27 http://www.in.gov/legislative/iac/iac_title?iact=50
- *IAAO = International Association of Assessing Officials

Contact

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