

CHAPTER I

MASS APPRAISAL CONCEPTS

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BASIC TERMINOLOGY

The International Association of Assessing Officers (IAAO) defines "mass appraisal" as a standardized procedure for valuing a universe of properties, as of a given date, in a manner that allows for statistical testing. This is a general definition of mass appraisal. Let us look at certain parts of the definition in more detail. The Mississippi Department of Revenue appraisal manual will allow the assessor to have reasonable substantiation for value estimates.

A ratio study is the basic test of appraisal accuracy. Mass appraisal builds on the same principles as a single-property appraisal. Mass appraisal techniques, however, emphasize valuation models (expressed as equations, tables and schedules), standardized practices, and statistical quality control. The major benefit of sales ratio studies is that these procedures identify problem areas that, when connected, produces better and more consistent value estimates. These value estimates can be statistically verified, and the quality of the mass appraisal results can be statistically evaluated.

The Department of Revenue as well as the county assessor collects information on sales of individual properties and divides the appraised value of each by its sale price. The result is a set of appraisal-to-sale ratios. An appraisal-to-sale ratio (the terms "ratio," "sales ratio," or "appraisal ratio" mean the same thing) of 1.00 indicates that the appraisal equals the sales price. A result lower than 1.00 indicates that the property is under-appraised; a result higher than 1.00 indicates that the properties are over-appraised.

Ratio studies do not end with the calculation of appraisal-to-sale ratios; they only begin there. In mass appraisal, the primary tool for analysis is the ratio study. A performance analysis determines whether values are equitable and consistent with the market. Statistics are just a way to sort, combine, and re-combine numbers in order to make them reveal more about the universe. A ratio study will tell you how well you have met the two major goals of mass appraisal--to appraise properties accurately and to appraise properties uniformly. An accurate appraisal comes close to 100% of market value (true value). Ratios from 95% to 105% on Class I and ratios from 92% to 108% on Class II are very good and probably represent the highest degree of accuracy an appraisal jurisdiction can realistically expect to attain.

True value--True value shall mean and include, but shall not be limited to, market value, cash value, actual cash value, proper value and value for the purposes of appraisal for ad valorem taxation. In arriving at the true value of all Class I and Class II property and improvements, the appraisal shall be made according to current use, regardless of location.

Class I and Class II property are real property. Real property consists of the interests, benefits, and rights inherent in the ownership of land plus anything permanently attached to the land or legally defined as immovable; the bundle of rights with which ownership of real estate is endowed. To the extent that "real estate" commonly includes land and any permanent improvements, the two terms can be understood to have the same meaning.

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The assessor is to establish the value of all Class I and Class II property as to the value of the property in fee simple title, unless the property in whole or part is specifically exempt by the laws of the State of Mississippi. Fee simple title indicates ownership that is absolute and subject to no limitation other than eminent domain, police power, escheat, and taxation. In the event that a parcel is dually owned, i. e., improvements (buildings) and land have separate ownership, the value of the separate entities should equal the value of the whole, as if owned in entirety.

In arriving at the true value of any land used for agricultural purposes, the appraisal shall be made according to its current use, regardless of its location; in making the appraisal, the assessor shall use values supplied annually by the Department of Revenue.

Computation of Tax Levy - The tax assessor is required to value all property uniformly and fairly. This is necessary if the property tax burden is to be distributed equitably among all property owners. Real property is taxed at a percentage of its true value called an assessment rate. The property tax is based on the assessed value multiplied by a millage rate.

A mill is 1/1000 of \$1.00, or in decimal use .001.

Equation: Market value (true value) X Assessment ratio X Millage Rate = Tax Levy Due

Example:

Market value	Residence	\$ 50,000
Market value	Residential lot	<u>\$ 5,000</u>
Total appraised value		\$ 55,000
Assessment ratio - Class II property		<u>X 15%</u>
Assessed value		\$ 8,250
Millage rate = 100 mills (100/1000)		<u>X .100</u>
Taxes		\$ 825.00

The Constitution of Mississippi was amended in 1986 to provide for five (5) classes of property. The percentage of assessment is set by the legislature for each class of property. The classes of property are as follows.

Rates of Assessment 27-35-4 of the MS Code

- Class I** Single family, owner occupied, residential real property
- Class II** All other real property
- Class III** Personal property (business and industrial personal property)
- Class IV** Utilities (appraised by the state)
- Class V** Automobiles

- (1) All Class I Property shall be assessed at the rate of ten percent (10%) of true value.
- (2) All Class II property and Class III property shall be assessed at the rate of fifteen percent (15%) of true value.
- (3) All Class IV property and Class V property shall be assessed at the rate of thirty percent (30%) of true value.

To assure an equitable distribution of the tax burden, the goal of the assessor is to estimate market values of all properties within the jurisdiction. The assessor's office must monitor the sales ratios of properties sold and determine the need for an update of property values.

Assume that a high degree of assessment uniformity is currently established in an assessment jurisdiction. If all properties in the jurisdiction experience identical percentage changes in market value from now on, the high degree of assessment uniformity will persist.

Unfortunately, there are substantial differences in the percentage changes in market value experienced by different parcels of property. These differences make periodic updating necessary. You should be aware of four common types of possible assessment misconceptions.

1. **Age**--Newer properties may change in value at a rate that differs from that for older properties.
2. **Cost or value**--Expensive properties may change in value at a rate that is higher or lower than that for inexpensive properties.
3. **Location**--Properties in a different location may change in value at different rates.
4. **Type (residential, commercial, industrial)**--Properties of these different types may change in value at different rates.

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THE THREE APPROACHES IN MASS APPRAISAL

There are three approaches to value: **Cost, Sales Comparison (Market), and Income**

The mass appraisal method normally involves two approaches to value: cost and sales comparison. It does not preclude the use of the income approach for valuing income-producing properties. In fact, for some properties, the income approach will result in the best estimate of value when correlated to other approaches.

Cost approach--The cost approach is based on the principle of substitution--that a rational, informed purchaser would pay no more for a property than the cost of building an acceptable substitute with like utility. The cost approach seeks to determine the replacement cost of an improvement less depreciation plus land value. **Replacement cost new less depreciation = market value (mv).** The cost approach is generally used for the valuation of improvements in the mass appraisal of properties. It is necessary to collect current construction cost from contractors in each county according to size and type of improvement to apply the procedures established by the Mississippi Appraisal Manual properly.

Sales Comparison Approach--The sales comparison approach is used to establish land values in the mass appraisal procedures. The market data of current land sales must be sufficient to reflect the "fair and reasonable market value" of lands accurately, including agricultural (row crop, pasture and timberlands), residential, commercial, and industrial by location or neighborhoods.

Income approach--The income approach is based on the principle that the value of an investment property reflects the quality and quantity of the income that it is expected to generate over its useful life. That is, market value is the estimated present value of future benefits. The income approach does not lend itself to the valuation of single-family residences, which are not usually purchased for their income-producing abilities.

NOTE: This manual provides guidelines for the estimation of replacement costs and depreciation of resulting improvement values. If counties encounter types of construction not included in the manual, other professional cost estimation resources including, but not limited to, Marshall & Swift Valuation Service, may be used.

If market data indicate the above resources are inadequate to equal the market in specific areas, counties may develop alternate procedures for the purpose of estimating actual market value and establishing and maintaining equalized valuations for improvements. To ensure statewide uniformity of application, if the use of alternate procedures is indicated, counties will consult with the Mississippi Department of Revenue and reach agreement regarding specific procedures to be used, prior to their use.

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THE UNIT SYSTEM IN APPRAISAL

The purpose of this manual is to enable the user to obtain through the unit system, replacement costs on structures and various items and to be able to apply physical depreciation to these structures and items. The unit system is a method, described herein, to determine the cost to construct a building.

Replacement cost is defined as the cost, which it would take today to replace a structure, or other improvement to a property, with one of equal utility and desirability.

Physical depreciation is defined as a loss of value due to wear, tear, and age.

The manual describes first the working of the "unit system" and then how to apply the system to residential structures and commercial structures.

When data processing is involved, its application makes very necessary a proper and equitable use of the manual by all persons involved.

Proper depreciating of structures and items is as important as any part of the unit system; a portion of the manual is set aside for its explanation.

Rural structure rates will be found which do not lend themselves well to units, so a portion of the manual gives square-foot cost, which will produce replacement cost for these types.

Last, a cost index, or costs for various items "in place," is made a part of the manual for the purpose of assisting where substitutions for specified materials are needed and also to give prices on other items needed.

In general, this manual has been condensed as much as possible, leaving out unnecessary details in order that it can be better followed by the user.

How the Unit System Works

The unit system is based on the square-foot method, which is generally recognized as the most practical way of determining replacement cost. The primary factors involved are:

1. Total square-foot area--Actual measurements of the perimeter dimensions of the living area and appendages are taken and diagrammed. The appendages (porches, attached garages, carports, etc.) are adjusted in proportion to their relationship to the finished living area, resulting in a total adjusted square foot area.

2. Base cost per square foot--The cost per square foot will depend on both the square foot area and choice of materials used in the construction of the seven (7) key structural components. They are exterior walls, interior walls, roof type, roof materials, flooring, plumbing and electrical. Construction units (a degree of weight expressed by a number of points) have been carefully assigned to each component part to reflect its relationship to the total structure. Unit values will differ, depending on the type of construction material used and the contributory value of particular features.
3. Extra features--Most structures include features of significant additional cost, which cannot be proportioned on the basis of construction units. Features such as extra baths and fireplaces are assigned dollar values. Heating and cooling costs are assigned dollar values computed from a table based on area served and type of system.
4. Construction class--The cost of construction is dependent upon the quality of material and workmanship as well as design. Class units will be added or deducted on the basis of quality of construction and design.
5. Location index--Since cost of construction is not uniform throughout the state, the replacement cost figure must be adjusted to reflect local building costs. A location factor, or index, based on a survey of local material and labor costs and by investigation of new buildings of known cost, must be developed for each area in which appraisals are to be made.

FIELD DATA COLLECTION REQUIREMENTS FOR MASS APPRAISAL

This manual is the Department of Revenue's priority in standardization of a formalized training program for the assessors and their field personnel. The property record card that you are currently using shall be exactly as it is portrayed in this manual.

Good field work is an essential part of any appraisal process, especially in mass appraising where time and cost factors prohibit detailed study and analysis applied to a property in the conventional type appraisal. An accurate, thorough job in the field avoids errors and thereby eliminates costly rechecking.

This section is intended to deal only with that phase of appraisal which has to do with residential cost estimating. However, due to the importance of good fieldwork, a brief outline of preparation vital to its accomplishment should prove beneficial to the appraiser or to the assessor.

A real property assessment system must have an inventory of all real properties, their uses, and their physical and locational characteristics. Data collection requires a good set of current cadastral maps. Parcel identification numbers should include the tax map identifier to provide a necessary control in accounting for properties during data collection and processing. The first step in any appraisal assignment is proper identification of the property to be evaluated.

In assessment work, reliable maps are a prerequisite for good fieldwork and for proper identification of each parcel of real estate. Field personnel check off those parcels visited as fieldwork is completed. Only in this manner can the assessor's office account for all real property on the tax roll and determine that each parcel appears under the proper owner's name.

Assessment maps are used in establishing and recording land values for each parcel. Complete maps are an aid in planning the valuation program, routing the field persons, keeping weekly or daily progress reports, spotting usable sales, noting utilities, transportation facilities, zoning, street widths and types, location of schools, churches, business districts, parking facilities, shopping and community centers and other factors that influence property values.

For a mass appraisal project, the next step is preparation of the Department of Revenue's Property Record Card. Property Record Cards are the "form" cards or "work sheets" used in mass appraisal projects. They are essential for efficient fieldwork and have been referred to as the "backbone" of this type of evaluation. They comprise compact forms for use in preparing the physical inventory of all items of taxable real estate. One card should be used for each taxable parcel of real estate, if possible. Where there are more buildings than can be sketched on a single card, two or more cards should be used, each additional card labeled "card 2 of 2" (etc.) and identified by parcel number or otherwise as part of the property shown on the original or master card.

The property record card has several functions as listed below:

1. Labor required in checking or listing data is reduced to a minimum.
2. Structural and other elements printed thereon serve as instant reminders to field personnel to check off these items before leaving the property.
3. They offer a ready and accurate comparison of properties of the same class.
4. They also form permanent records, enabling the assessor to keep track of alterations, additions, or other property changes.

Drawings should face the bottom of the graphs, with the name of the street or road in each instance printed legibly at the bottom of the graph section of the card. All buildings should be located with reasonable accuracy and drawn in the proper locations with respect to the front of the lot. They should be properly located in relation to the site and to each other so that the completed sketch is, in reality, a plot plan of the property and easily recognizable by anyone familiar with it.

Where an extremely large improvement(s) is involved, the scale required is sometimes too small for dimensional drawing of the building(s), in which event the location or plot plan of the same should be accurately shown on the large graph card, and the building(s) then drawn at random on the front graphs, to the usual scale, and properly numbered for identification on both drawings.

Each building should be identified by numerals (from 1 up) with circles around them. If parts of a building have been erected at different times, or where portions of it are vastly different types of construction, the different sections should be identified by letters of the alphabet from "A" up, with construction and/or age data supplied in the note column and lettered to coincide with the drawing. This affords accurate data for each part of the building. Both numerals and letters should be placed in the center of the areas that they are meant to identify.

ELECTRONIC DATA PROCESSING AND DATA MANAGEMENT SYSTEMS

Data management requires system controls. One such control is the accounting for every property within the jurisdiction. In today's process of assessing property, much physical and economic data must be collected, correlated, studied and analyzed if the assessor is to achieve the degree of accuracy in his/her work expected and demanded by the taxpayer. These tasks can be accomplished by electronic data processing.

The computer has made it possible for any jurisdiction to record and retrieve information more quickly. With recent developments in microcomputer technology, even the smallest jurisdiction can now use computers. The computer system should provide for storage and rapid retrieval of property and sales data. It should be possible to link many kinds of data for a single parcel, compute summary measures, adjust data, and value properties using computer assisted mass appraisal techniques. Advances in computerized mapping make it possible to link appraisal data with mapping files and other data in geographic information systems. If maps are not computerized, parcel information in the computer should be coded so that it can be linked to a map.

Designers of data processing systems for assessors should consider the needs of other users. Local government computer systems are often designed to integrate assessment, preparation of tax bills, and tax collection. The system should be user friendly so that data sharing is efficient, but with safeguarded computer files protected from unauthorized disclosure or alteration of data. Much technical literature is available for study, and representatives of various companies producing such equipment are generally anxious to discuss their product with those interested.

Data processing will never automate fieldwork, nor can it replace the judgement, which must be exercised by the appraiser in estimation of factors affecting a property's true value. If erroneous information is entered into the computer, erroneous information will come out.

A basic knowledge of the assessment procedure can be the difference between a highly successful data processing operation and failure. Careful consideration should be given in employing a knowledgeable data processing clerk, prior to installation or leasing of assessment software/computer systems.

Listed below are some of the basic operations of Electronic Data Processing capabilities:

Preparation of Tax Rolls--Through the use of data processing, printing of the roll and the computation and extension of taxes is reduced. Multiple copies can also be produced simultaneously.

Preparation of Tax Statements (Receipts) --Preparation of these statements (receipts) is a function of an assessor/collector's office, and with data processing equipment, it is a relatively simple process.

Alphabetical Ownership Index--As a by-product of the data used in preparing the tax roll, an alphabetical ownership index to all property in the county can be prepared and made available to the tax-paying public and to governmental agencies.

Street Address Index--Occasionally an assessment office finds a street index to all improved property useful. Such an index can be produced by including the property address in the data entered into the computer. Many Emergency-911 counties have relied strongly upon the assessor's office for proper street address and information that coincides with emergency routing in disaster communications.

Computation of Building Values--Through the use of the cost system and the input of certain data from the property record cards, the computer can be programmed to calculate the area of buildings, their cost new, and their depreciated replacement values.

Construction Cost Adjustment--Due to the fluctuation of construction costs, the assessor should update his/her assessment of buildings by reflecting construction cost changes in the new cost estimates. Such revisions become a simple task through the use of data processing.

Depreciation Adjustment--Buildings and equipment normally lose value with age, and it becomes necessary for the assessor to periodically recognize this fact and to allow for depreciation. Data processing can make the necessary adjustments based on depreciation schedules and recomputed depreciated costs in a fraction of the time otherwise required.

Sales Ratio Studies--Ratio studies are extremely important to the assessor and staff in maintaining equitable assessments. Data processing is capable of producing studies in any form desired, including geographical studies and studies by building type. The sales ratio study produced by the computer is limited only by data input.

Personal Property Comparison Studies--Personal Property is one of the most difficult items to assess with a high degree of accuracy. Properly programmed data processing can make the task much simpler by preparing comparison studies.

Valuation Notification to Property Owners--Notices of changes in assessments can be prepared by data processing. Value notices should contain the parcel identification number, owner's name, current year's value, phone number for taxpayer to call, as well as date and location for taxpayer to appeal any value for assessment purposes.

The tax assessor may obtain an unlimited amount of statistical data through the use of data processing equipment and computers. The ideal assessor's office will have employees with skills in administration, mass appraisal, and single property appraisal. The appraised values of all properties can be developed in house or contracted by an appraisal firm and defended successfully at the appeal level.