

CHAPTER 4

PROPERTY VALUE AND THE APPRAISAL PROCESS

Property value cannot be precisely measured. Unlike physics, mathematics, or astronomy, appraising is not an exact science. Since appraising is not an exact science, perfection cannot and should not be expected. For that reason, there can never be a perfect tax roll.

Property value is never stable; it is always in a state of flux. There are, however, yardsticks for measuring property value which, if properly used, will take most of the guesswork out of the process. The appraiser, who squints one eye, looks the property over, and guesses as to its value should not expect to obtain effective and reasonably accurate appraisals, nor should he expect correct or even approximately correct values for the assessment roll.

Property value is defined as "*the present worth of future benefits arising from its ownership.*" These "*benefits*" can be derived either from desirable features to be enjoyed, called amenities, or from monetary gains. Stated more succinctly, all property value lies in future use. Past amenities or profits have no bearing on property values other than as they reflect or indicate amenities or profits to be enjoyed or received in the future. The purchaser of a residential property is not interested in or expected to pay for the scenic view its owner has been enjoying if it will shortly be destroyed by a bulldozer clearing the way for a new expressway or urban renewal project. A prospective motel purchaser is not interested in the motels past earnings. However, if a number of new and more modern motels have been or are being constructed in the area and there is construction of a new highway and traffic has been or is to be diverted from the motel, occupancy and room rates will probably be reduced. The prospective purchaser is interested only in amenities to be enjoyed by him or future profits to be derived through ownership.

Since value lies in the future, fee appraisers and most real estate purchasers wisely base their value estimates on future benefits accruing to ownership, not on the immediate market.

On the other hand, the mass appraiser must constantly bear in mind the fact that he/she is to evaluate property as it is on the date legally required by the State of Alabama for assessment (October 1st of each year). He/she is not required to measure future or possible profit as closely as the fee appraiser. Such elasticity is not possible in his/her work. He/she is not concerned with hypotheses; future economic, social, scientific, and political changes; population, neighborhood, or other trends with a likely effect on property values, either of an enhancing or depreciating nature. He/she is in the position to measure and record changes in value annually. He/she is correct in using, the general rule, that prices paid for real property reflect future benefits or depreciating factors existing in the minds of buyers. In short, the Property Tax appraiser should not consider past or subsequent benefits and values, other than as past benefits might reflect true values as of the current year's tax roll. His/her valuations must be based on current conditions and in accordance with the use to which properties are being put on the date of assessment.

However, the "*one day*" assessment date requirement makes it advisable, if not necessary, for the property tax appraiser to engage in short-term or limited forecasting of conditions and their probable effect on property values. Since it is not physically possible to inspect and evaluate all taxable property within a county in one day, the tax appraiser must make his/her appraisal during the twelve months preceding October 1st. To that extent, he/she should endeavor to consider the property under such conditions as he/she has reason to believe would exist on that later date. In this process, caution and good judgment must be exercised.

The purpose of this portion of the manual is to describe the nature and meaning of property value and the methods used in estimating it. The format involves some repetition, however; it tends to reinforce the more salient characteristics of property value and the estimation process.

PROPERTY VALUE

Real property values often differ widely, from one area to another. Values sometimes vary considerably from one side of a street to the other side in the same block, or from one end of a particular block to the other. These differences do not just happen without reasons. Discernment and understanding (including accumulation and analysis of market data) of these cause/effect relationships tend to eliminate the surprise or puzzlement over the diversity of real property values among various properties.

A detailed explanation of the forces affecting property values would require lengthy discussion. But, perhaps a brief description of the more vital factors will suffice to acquaint the property tax appraiser with basic or elementary concepts of value and causes creating value.

In order to obtain a clear understanding of the factors affecting real property values and a working knowledge of commonly accepted methods used in measuring them, it is necessary to know the meaning of the term "*real property value*." It is a term extremely difficult to define because the word "*value*" has so many meanings and gradations of meanings.

Economic theory and countless legal decisions recognize that different shades of meaning should be given the word "*value*" for different valuation purposes. There are more than 70 kinds of value referred to, each of which has a special significance as indicated by use of a limiting adjective. Some examples are: market value, loan value, insurable value, book value, liquidation value, intrinsic value, cost value, sentimental value, investment value, speculative value, just value, replacement value, going concern value, sound value, good will value, economic value, forced sale value, plottage value, service value, commercial value, rental value, created value, absorption value, improved value, capital value, caprice value, normal value, justifiable value, cash value, true value, depreciated replacement value, normal occupancy value, established use value, nuisance value, and use value. Some of the qualifying terms employed are similar in meaning, but the distinction is sufficient for the same property to have many different values to different people and for different purposes at different times. *An appraisal is an estimate of a specific value at a definite time or certain date.*

To be eminently qualified for his/her task, the property tax appraiser should be familiar with all value terms, but the one with which he/she is primarily concerned is "*market value*." The legal term employed for tax assessment purposes in Alabama is "*fair and reasonable market value*." To put it simply, it is the value in exchange or the monetary worth; a prudent purchaser, who does not have to buy, would probably pay for a property owned by one who does not have to sell, provided both buyer and seller were fully informed and a reasonable time allowed in effecting the transfer.

To the extent that the realm of fact is distinguished from the realm of fantasy, value is a fact. An appraisal is an effort to estimate or gauge that fact - it does not create it. Real property values are the result of community thinking - the act of people en masse - and are created by economic, social, scientific, and political conditions. These conditions vary from one community to another.

Real property has value because it is capable of supplying human needs or desires, either in the form of amenities to be enjoyed or services to be rendered, including the production of goods or income to

be received. Obviously, it can have no value unless those wanting or needing it have something of equal value to exchange for it. Money is the customary exchange medium. A vital factor in the value concept is the scarcity or abundance of land. It is scarce only in the sense that desirable locations are limited in number relative to the demand for them. An example of this is the case where there are only four corners at an intersection of the two principal streets in the commercial district of an urban area. The degree of need or desire coupled with the degree of scarcity represents the measure of property value.

Due to constant changes in customs, designs, living standards, innovations and other factors, both desire and need are forever being renewed and widened. Today's luxuries become tomorrow's near necessities, as evidenced in relatively recent years by indirect lighting, electric refrigeration, air conditioning, colored fixtures, and family swimming pools. It is also true that yesterday's rage has often become today's antique; for example, claw-leg bath tubs.

It has been said, facetiously, that only two basic changes in construction have been made during the past half century - the plumbing has been moved inside and living quarters outside.

Some of the vital forces contributing to or creating real property value, other than need or desire and the scarcity of land, are:

Supply and Demand - This economic law can be modified but never completely controlled by legislative pump-priming or interest rate manipulations. Property values fluctuate, often widely, through its operation. When there are more residential units, store spaces, shopping centers, or motels than there are people who desire them and who have the money to purchase or rent them, the resulting "surplus" is represented by vacancies, foreclosures, reduced rentals, and lower sales prices. When demand catches up with supply, vacancies vanish, rentals and sales prices increase; and when demand exceeds supply, rentals and sales prices increase still more and "scarcity premiums" are often considerations in property purchases. This was the case in the late 1940's following the end of World War II, when there was an acute housing shortage. Liberal guarantees of mortgage financing by federal government agencies not only eased the housing shortage but also provided such an excess of housing units, both single family and multifamily, it was followed by vacancies, foreclosures, reduced rental rates, and lower sales prices in many areas. This cycle is ever in motion, but hills and valleys on the graph chart are more severe for an area, which is active. If supply and demand remained in reasonable balance at all times, the work of the appraiser would be greatly simplified.

Stability of Location - Land is immovable, so that the character of the area surrounding it, especially the topography - mountains, valleys, plains, lakes, oceanfront, and navigable water, inextricably influences it. Location has been the controlling force in the development of all cities and towns.

Land is unlike other commodities in that it cannot be moved from one area where the market is dormant to another area where it is active. Because it cannot be moved from one area to another as conditions change, markets for most real property are essentially local in nature.

Absence of Central Marketing Facilities - Although attempts have been made to establish central real estate marketing conditions, none has attained any degree of success. It would be extremely difficult to secure any sort of efficient organization and centralization in markets for a commodity that lacks standardization and is fixed in location. Whatever degree of centralization or standardization there is in real estate markets is necessarily limited to local areas.

Durability - The durability of real estate has a stabilizing effect on its value. This has been especially true in the area of competitive investments due to the availability and common practice of long term financing. Because of its durability, fluctuations in selling prices of real estate are less severe than in most commodities.

Inability to Reproduce Land - In the ordinary sense of the word, land cannot be reproduced. With the dynamic population explosion, tremendous economic expansion in the relatively recent past, we are faced with the necessity of spending more dollars for land acquisition or developing the lesser used areas.

Highest and Best Use - Appraisal industry standards require that the appraiser proffering any estimate of value must incorporate, either implicitly or explicitly, that the evaluator has given serious consideration to the "highest and best use" of the property appraised. A property's highest and best use is that use of the land likely to produce the highest yield or maximum benefits over a reasonably foreseeable period of time for a prudent or typical owner. This fundamental principle of evaluation is of utmost importance to the fee appraiser, especially in defining the premise upon which the valuation is based. It requires forecasting, which concerns the property tax appraiser in a limited way only. However, forecasting is a major factor with which the appraiser should be familiar.

At times, the problem, even for the skilled appraiser, is in knowing what constitutes "highest and best use." Proper application of the principle requires intensive study and wide experience and involves many elements, such as: supply and demand, timing, competition of other properties or types of investments, location, topography, shape, accessibility, available utilities, drainage, amenability to plottage, zoning regulations, economic and neighborhood trends, building code requirements, restrictions by covenant and many others.

The time required for study and analysis of each parcel of real estate within a county affected by "*highest and best use*" principle makes it impossible for the mass appraiser to employ it to any extent; nor is it deemed advisable even though he/she has the time and sufficient trained personnel for handling the work. The property tax appraiser is concerned only with the "fair and reasonable market value" of property on the assessment date. The mass appraiser is not concerned with some hypothetical highest and best use. As has been pointed out, he/she is on the job from year to year and, as changes occur and properties are converted to higher and more profitable uses, he/she is in a position to gauge and record these changes in value. Opinions of knowledgeable buyers and sellers relative to enhancement in property values apt to result from conversion to highest and best uses are generally indicated by prices paid for such properties. A change in utility, results in value increases, and is fairly accurately reflected in the market place, by increased rental income, in the absence of sales.

An illustration of the conversion to higher use process, which is familiar to everyone, can be drawn from the history of almost any community, which has what was once a choice residential section of fine old homes. With the creation of new and modern developments farther out, many families vacated their old homesteads and moved into more modern and attractive residences. But, for sentimental reasons, there were some who preferred to remain in their old childhood homes. The old area was rezoned and commercial enterprises of minor character: rooming and boarding houses, photographic and art studios, funeral homes, interior decorators, antique and gift shops, gradually occupied the vacated homes, while others were converted into apartments or demolished for new convenience stores, strip shopping centers, and offices. The result was a conglomeration of small retail and service businesses, rooming and boarding houses, apartments, and old residences. Generally speaking, in a transition area of this sort, the land has become too valuable for residential usage. The under improvement of the land constitutes an inadequacy. The highest and best use of the land would probably be a conversion of the old house to an alternate use with a higher return from the property. In some instances, where there is a use for the old residence, the property might be sold at a price equal to the market value of the land, plus the cost of the building, less depreciation, even though the improvements do not constitute the most productive use of the land. However, in most cases where new buildings are contemplated, the property can be sold only on a basis of land value. In fact, the prospective purchaser often deducts the cost of razing the old structure from his estimate of the market value of the land. In other words, he/she would be willing to pay more for the property if vacant. In a transition area, with an upward trend and substantial enhancement in land values, the market value of improvements derives from what they add to the value of the land.

Although unrelated to the principle of "highest and best use," mention should be made of the other side of transition areas; namely, the trend is not always upward; sometimes the reverse is true, and the trend is steady deterioration and gradual conversion to slums.

It is sometimes contended that certain buildings in slum areas are not worth assessing. On the other hand, such dilapidated structures are often greater burdens to local governments - in costs of crime, fire and police protection, sanitation and welfare - than those of other sections and should be assessed on a basis of "fair and reasonable market value," like all other property.

Transition areas and "twilight zones" pose some of the most difficult appraisal and assessment problems encountered and are discussed more fully in the section on depreciation.

The Principle of Substitution - It is a truism that no informed buyer is going to pay more for property than the cost of acquiring a like or similar site and replacing the improvements. In other words, when another of equal desirability and value can replace any property, its value tends to be fixed at the cost of acquiring the substitute property. For that reason, the market value of the property is, to a great degree, limited by the value of similar properties which are available and have like function, comparable location, and future benefits. This principle of substitution is important in the study, analysis, and application of both the market data and cost approaches or yardsticks in the appraisal process discussed more fully in the section dealing with valuation approaches. Other forces influencing property value of a more specific or local character, including local regulations, are discussed under subsequent headings.

Yardsticks Used In Measuring Value - Few people will admit their ability to prepare an electronic data processing program or conduct a symphony orchestra, but almost any person you meet will readily confess he/she can sing or appraise real estate better than the person who has the position.

There are almost as many ideas of property value as there are people, due to the reason that his own line of work and personal experience in the real estate field usually molds each person's concept of value. If a contractor, subcontractor, engineer, architect, or craftsman in the construction field, or materials dealer is asked the value of a certain parcel of real estate, more than likely his opinion will be predicated upon its cost of reproduction, to the exclusion of all other factors. In short, his training and experience have been in the field of cost estimation.

Ask a real estate broker, an attorney, or average layman the value of that same piece of property, and his/her answer will be that amount for which he/she thinks it can be sold in the open market, based on such experience as he/she might have had in buying and selling comparable properties, or from observation of properties exchanged in the market place. In giving his/her answer, he/she is generally making a quick, mental comparison of the property asked about with those he/she previously bought or sold or on which he/she made mental notes at the time his/her friends or clients sold or purchased similar properties. It is a market or comparison method of evaluation and the method with which the public in general is most familiar. It is also the one generally adhered to by courts in their decisions.

Then ask the astute real property investor the value of that same property, and you may get a somewhat different answer. The investor's emphasis or perspective is on earnings potential - what the property will likely produce in the way of net revenue for the amount of capital investment required. (Appreciation over the typical holding period is also an important consideration.) Its worth mentioning here that if the investor is thinking in terms of what can be expected based on typical management, operating ratios, and rates of return on this type property, his/her estimate would be a *market value* estimate. Conversely, if the investor figures on operating ratios and rates of return not typical of the market, but rather his or her own individual investment requirements, then he/she is making an estimate of *investment value*.

On the other hand, the banker, mortgage loan company, or individual lender, in giving an opinion of value, is considering the property from the standpoint of the amount he/she feels it would bring in the market in the event of a forced or distress sale. His/her whole thinking is about that last dollar of safety. Too, he/she is thinking of the maximum rent it would be likely to produce under adverse conditions in the event he/she had to bid it in at a foreclosure sale.

Each of these value concepts is correct as far as it goes; but, as a general rule, neither one by itself goes far enough. No one yardstick has been devised for measuring the value of all kinds of real estate; there are three.

In appraisal terminology, there are three generally accepted methods of estimating property value called "*approaches to value*"; meaning that each method provides a separate approach to valuing property, and each offering a somewhat different perspective.

The yardsticks or approaches to value are referred to as (1) *cost, or summation*; (2) *market, or sales comparison*; and (3) *capitalization of income*. They are means to an end; value is the end. In actual appraisal practice, all three of these basic methods are not necessarily applied to the fullest degree for each individual property at the same time. The method or methods to be used will differ with the type property being appraised and the purpose of the appraisal.

For example, an appraisal for establishing the insurable value of a building would involve only one yardstick or approach; that of its cost of replacement as a new structure, less depreciation - the cost approach.

In a few specific instances which involve a type of value other than market (such as insurable value) one approach can be used to the exclusion of the other two; but the fact remains that, in most appraisals, it will be found all three have something to contribute to the value analysis. The conclusion arrived at through each method is used to check results of the other two. For example, owner-occupied properties of the single-family type render services in amenities of living. For the most part, they can be evaluated or more equitably assessed by the cost and market approaches, but there are instances where the rental value of the house will make some contribution to the final value estimate. The cost approach would not be applicable to the valuation of land, but the cost of improving the land might well be a factor to consider in the economic value estimate. In seeking the market value of a property, the most accurate result requires the use of all three approaches.

Thus, when the contractor gives his opinion of value based on replacement cost, he is on the right track, but the other value-estimating techniques have not been given consideration. The same is true of the layman who furnishes a value estimate predicated upon the market or sales comparison approach; or the real estate investor's opinion, based on projected income; or the banker or mortgage loan officer who isolates his/her thinking to the sale or rents obtainable under distressed conditions. Each estimate may be close but may not be near the exact figure. After all three approaches have been considered; the appraiser or assessor must decide which of the three methods should be given the most weight. In short, which is to be the controlling approach to the value estimate and how much weight, if any, should be given the others.

Appraising is, therefore, a coordinating or balancing procedure, described as a process of bracketing. The use of each of the three methods or approaches is likely to result in a value estimate at variance with those obtained through the other two. Particularly with respect to older properties, wide variances in the three value estimates occur frequently in the bracketing process. The lowest value estimate obtained is referred to as the "*floor*," and the highest as the "*ceiling*." The appraiser knows the realistic property value he/she is seeking lies somewhere between the two. While appraising is not an exact science, through this balancing or bracketing process and the application of judgment, resulting from training and experience, a high degree of accuracy is possible in the value estimate.

The "Sales Comparison" Approach - This approach to value is often referred to as the "*comparison*" method or procedure because the properties on which market data are available are related to or compared with the property being appraised. Since data comparisons are equally vital in the use of the cost and income approaches, it is misleading to refer to it as "THE" comparison approach.

It is perhaps more widely known, better understood, and generally used than any of the three because it represents the thinking of buyers and sellers; that is, valuations which result from public actions. It is the most direct approach in estimating market value and most nearly conforms to the statutory requirement of "*fair and reasonable market value.*" Because legal concepts of value have not kept pace with economic concepts, it is the one that has been relied upon most by the courts. For this reason, the unskilled appraiser to the exclusion of others more generally uses it.

The value obtained by this approach has been defined as the most probable price estimated in terms of money that a willing buyer would pay a willing seller when neither is acting under compulsion and both are fully informed, and the property is exposed for sale on the open market for a reasonable time. It assumes that all rights and benefits inherent in the property are included in the transfer.

The application of this approach calls for an estimation of property value by ascertaining prices paid within a reasonably current period for similar properties in the same or comparable neighborhoods. It involves assembling, studying, and analyzing market data - sales, brokers' listings, or any offers made on comparable or nearly comparable properties in the same areas; examining and weighing points of difference and similarity, with adjustments or refinements when warranted for differentials in physical condition of improvements, topography, and other factors. In analyzing market transactions, the appraiser or assessor must give careful consideration to innumerable other factors, especially as to the reliability of sources of information, which is to say whether or not sales were "arm's length," or bona fide transactions. Sales must be carefully selected so as to exclude transfers between members of a family, or interlocking corporations, or other instances where sales prices do not reflect fair market deals. It is necessary to know the terms and conditions influencing each sale. Some so-called sales are, in fact, cleverly worded options. By proper use of this comparison approach, the probable price at which the property could be sold, or could have been sold as of a certain date, is ascertainable with a relatively high degree of accuracy.

It is evident the sale price of a property may, in many cases, be a good indication of market value, but it should not be accepted as such without proper verification and analysis. No appraisal can be more accurate than the data on which it is based. Often the consideration mentioned in the deed, does not represent the actual sale price of the property. For example, a distress sale, where the owner is forced by circumstances to sell, will not indicate a realistic value of property. If a party needs additional land adjoining that already owned land and pays a premium for it, the sale price does not represent a realistic value. Property purchases for the purpose of acquiring income tax benefits or "tax shelters" seldom indicate true market value. A trade involving two or more properties is often misleading.

An individual's tastes, sentimentality, pride of ownership, personal eccentricities, or caprice sometimes causes him to pay an above-the-market or even exorbitant price for a property - the old homestead, or the home of a celebrity. Poor judgment, pressing need, bargaining ability, or lack of it on the part of either the buyer or seller, or both, are some of the elements for careful analysis in the use of this approach.

The real estate market has its rises and falls like any other, and the price at which a property can be sold during a boom or depression is not, generally speaking, an indication of its true value. Many illustrations of sales that do not reflect realistic value could be cited. If the sales of comparable or

nearly comparable properties are to be of any value to the appraiser or assessor in his work, all facts surrounding each transaction must not only be verified, they must be carefully studied and analyzed.

It should be emphasized that many market transactions will not meet conditions necessary to furnish an indication of "*market value*"; that sale price is not necessarily market value; a single sale does not create a market.

Many of those who advocate use of the market or comparison method alone contend that a property is worth only what it will sell for; that "the worth of a thing is the price it will bring." If that were true, the words "bargain" and "trimming" would have to be deleted from the real estate vocabulary; obviously, if a property is worth only what it will sell for, no one would ever get a bargain or a trimming in a real estate transaction.

If every parcel of real estate within a county or other taxing jurisdiction could be traded in the open market each year, it might be possible to rely solely on such transactions for value, but only a few change hands in an area during any one year, or even over a period of years.

Sales price is not necessarily market value; it is only evidence of market value to be given such weight as, in the judgment of the appraiser, it deserves.

The Cost Approach - The cost approach is exactly what the term implies - a comparison of the property under appraisal with what it would cost to buy a similar parcel of real estate and erect an identical or similar building thereon, followed by an analysis of how much value has been lost in the old building by reason of its age, wear and tear, and use. The measure of such deficiencies is termed accrued or effective depreciation. Theoretically, it represents the upper limit or "ceiling" of value, since it is axiomatic that no prudent investor would be apt to pay more for a property than its cost of duplication, less depreciation.

This approach, sometimes referred to as the "summation value" method, involves an estimate of the market value of the land (by comparison) considered as though vacant, plus an estimate of the new cost of improvements which occupy it, as of the appraisal or assessment date, less allowances for depreciation, physical deterioration, and obsolescence, both functional and economic. (More information on the subject of depreciation and how to measure it is included later in this chapter.)

If any phase of the appraisal process could be reduced to an exact science, it would be that of building cost estimating. However, it is a matter of common knowledge that building contractors, bidding on exactly the same sets of plans and specifications, invariably differ in their estimates, often as much as 30 percent. So that even this phase of appraising is not and cannot be exact. Here, as in all other segments of valuation work, building costs can never be more than estimates or approximations; they cannot be exactly determined.

No one can even imagine a "one-and-only" cost to erect any structure. Immediately after a new building has been erected, its exact cost can be ascertained, but that figure can only be indicative of what the cost was. The preponderance of evidence favors the fact that some other contractor could have been found who would have constructed it for less. The exact prices of labor and materials are generally determinable for a specific locale as of a given date, but the efficiency of combining the two items in a completed building cannot be predicted with nearly as much certainty.

Weather conditions, taxes, financing costs, and job conditions have a certain amount of influence on bids. Even the contractor's ability to handle men and plan his/her work is a factor influencing the cost of a construction job. Labor efficiency rises and falls according to economic conditions. Probably the strongest influence in raising or lowering the cost estimate is the profit motive. This is illustrated quite graphically any time plans and specifications for a new structure are given to contractors for bids. The busy contractor, with all the work he/she can handle, will be inclined to bid high, if at all; the one whose work program is slack and whose crews are idle will bid low. Rather than be faced with a possible loss of experienced forces, contractors have been known to bid in projects at approximate cost. Then, too, there is always that difference in the quality of workmanship of various builders. The lowest bid is not necessarily the cheapest price; it is often the most expensive.

Many property tax appraisers use the cost approach because of its adaptability to systematic and uniform procedure for all improved properties. Market data and income techniques should be used when appropriate as supporting indicators of "*fair and reasonable market value.*"

Capitalization of Income Approach - The "*capitalization of income*" method is predicated upon an assumption the annual income received from a property is the equivalent to interest on capital value. To rephrase it, the value of the property is the anticipated annual income for the useful life of the property, divided by the interest rate such an investment would properly yield each year. Stated more simply, it means conversion of annual income into capital value through a process of capitalization. This is accomplished by dividing the annual gross or net income expectancy of a property by that interest rate which, in the opinion of the appraiser, more nearly reflects the hazards of the investment risk. A gross annual income of \$10,000 capitalized at an interest rate of 10% indicates an economic or income value of $\$10,000 \div .10$, or \$100,000 while a net income of $\$6,000 \div .06$, or \$100,000. Gross income means the total amount of revenue produced annually by the property before fixed charges and operating expenses - such as real and personal property taxes, insurance, utilities, maintenance, management, and others - are deducted. "*Net income*" is that yearly return from the property after all fixed charges and operating expenses have been deducted. Obviously, the greater the investment risks, the higher the interest rate required by a prudent investor. Selection of a proper interest or capitalization rate for an appraisal is of utmost importance if a correct result is to be obtained. Volumes have been written on this segment of the appraisal process. It should also be noted a low capitalization rate results in a high value, and vice versa. By way of illustration: An annual net income of \$10,000 capitalized at an interest rate of 5% indicates a capital value of \$200,000; but, if an interest rate of 10% is used, an income value of only half that amount, or \$100,000 is reflected. This wide disparity in results, obtained through use of different interest rates, illustrates the tremendous importance of selecting the proper one. Using this illustration, it will be observed that a differential of only 1% in the capitalization rate makes a change of almost \$35,000 in the value estimate. Proper capitalization rates are supplied by the market place. They are the interest rates used by prudent buyers and sellers of investment-type properties.

It has been noted that the income capitalization approach is the phase of the appraisal program whereby an analysis of the quantity, quality, and duration of the income expectancy estimate the income value of a property. It places emphasis on income and future use of the property the money it is expected to earn during its remaining useful or economic lifetime. Here again, the basis of the process is a comparison of income possibilities of the property appraised with those of other similar properties in the same area, as well as those of other investments competing with real estate, such as stocks and bonds.

Since this method or approach emphasizes future use, it is of much less importance to the tax appraiser in his/her work than to the fee appraiser. For average "run-of-the-mill" appraisals of investment type properties, many mass appraisers have adopted various forms of "*gross income multipliers.*" This process is not as refined as more detailed methods of capitalization, and results are not as accurate; but it produces satisfactory results for most tax appraisers, especially those who do not have large income properties, such as office buildings, multi-story apartment buildings, hotels, shopping centers, and other complexes in their jurisdictions. The gross income multiplier method is one where the annual gross income produced by a property is multiplied by a factor, which, in the opinion of the appraiser, is best suited for the class of investment property under consideration. Like interest rates used in the capitalization process, gross income multipliers are taken from real estate market experience, reflecting those factors used by knowledgeable operators in the market. Net income multipliers are also used in some instances.

From the foregoing discussion, it is apparent the income capitalization approach is applicable primarily to income or investment-type properties. In the appraisal of property, one of its principal functions is that of furnishing the appraiser a method of estimating the amount of obsolescence (functional and/or economic) existing in a property, other than physical deterioration. If, by way of illustration, an office building has a physically depreciated replacement cost value of \$500,000, but under normal conditions and competent management, is incapable of producing a return on a capital value investment of more than \$400,000, the difference of \$100,000 generally represents obsolescence, either functional or economic, or both. Furthermore, if the property cannot produce a satisfactory return on a capital investment of more than \$400,000, chances strongly favor the fact the market value of the property will not exceed this amount. In other words, the property could not be sold on the open market for more than \$400,000, unless a special user could be found. The use of this process in estimating obsolescence is a valuable aid to the appraiser when he/she has to cope with the baffling problem of depreciation.

The Bracketing Process – Obviously, the three approaches are inter-related. Each has a part to play in the value process, but the information they produce must be correlated and weighed according to the nature of the appraisal. The final value estimate is arrived through a process of correlating or bracketing them. It has been pointed out that, theoretically at least, the cost approach represents the value ceiling; the highest value that can be ascribed to a property, since it is apparent no knowledgeable purchaser would pay more for a property than it would cost to buy a similar piece of land and erect an identical building. The floor of the value estimate is represented by either of the two; that is, the market or income approach. In some cases, it is found to be one, in some cases the other; in a few instances it is both. The fair and reasonable market value of the property has to be somewhere between the floor and the ceiling.

It is at this point the judgment of the appraiser, based on training and experience, comes into play. Of all facts at hand, he/she must decide how much consideration should be given each of the approaches to value and which should be given most weight. It is his/her responsibility to analyze each of these indicators of value as correctly as possible, correlate them, and arrive at a final conclusion; one which can be substantiated to his/her satisfaction and easily explained to the taxpayer.

The correlating process alternates between the floor and ceiling of value are like the bounding particles between positive and negative poles in electricity. Unless the two poles are connected, there can be no light. Likewise, in the evaluation of property, all elements must be properly related to secure enlightenment.

To the extent this bracketing process limits or minimizes inaccuracies which characterize value estimation, it provides the appraiser with certain controls; and the more this technique is resorted to, the less will be the chance of error in the final value estimate; the conclusion will be more convincing. Since there is a value ceiling and floor in the use of each of the three approaches, the bracketing process can be applied to each. The most accurate results are obtainable in this manner.

Many appraisers erroneously assume that, by adding results obtained through application of the three different approaches and dividing the total by three, a correct final value estimate is obtained. In nearly all instances, this procedure results in wholly inaccurate, misleading, and untenable conclusions.

By way of illustration, it will be assumed the property under consideration is a two-story masonry building with stores on the ground floor and "walk-up" offices above. It is in a secondary retail business district. By use of the cost approach, it is decided the building has a physically depreciated replacement value of approximately \$270,000, as follows:

Estimated market value of site, considered as though vacant		\$ 70,000
Estimated new replacement cost of building	\$350,000	
Less estimated accrued physical deterioration	(\$ 80,000)	
		<u>\$270,000</u>
	Total	\$340,000

Due to construction of modern offices in the area in recent years, the income received from the obsolete-type offices in this building is substantially reduced. The building is producing an average annual net income of only \$19,800 which, capitalized at 9%, indicates an investment or income value of \$220,000.

Within the past two or three years, there have been three sales of comparable or nearly comparable properties in the area which, following proper analyses of the same, including necessary adjustments for differentials in time, size, and other factors, indicate a market value of the subject property of approximately \$220,000.

From a study and analysis of all pertinent facts, it has become crystal-clear that results obtained through use of the market data and income approaches indicate fair and reasonable market value of \$220,000.

Thus there is a floor of value (represented by both market data and income approaches) of \$220,000 and a value ceiling of \$420,000. There is full justification for not giving any weight to the cost approach so that, in this instance, the final bracketing process can be dispensed of. The final estimate of \$220,000 as the fair and reasonable market value of the subject property becomes a well-supported and defensible position, which can readily be explained to any taxpayer. The appraiser who adds the results obtained by the three approaches (\$780,000) and divides by three (\$260,000) will miss the obviously correct property value estimate by almost 20%.

In the process outlined above, a final defensible and explainable value estimate of \$220,000 has been arrived at, which means simply that total effective depreciation (loss of value from all causes) exceeds estimated accrued physical deterioration by some \$120,000. In other words, the measured depreciation is approximately \$200,000, of which approximately \$80,000 is attributed to physical deterioration and \$120,000 to obsolescence. Through this procedure, the appraiser is able to estimate, with a fairly high degree of accuracy, the accrued obsolescence in the property, resulting for the most part from non-use of the second floor of the building. A thorough study of the facts would reveal that the property would be better off without the second floor and that the write-off for obsolescence was due primarily to that fact.

The three approaches to value described herein are not to be considered or used as mathematical formulas. The elements composing each one are wholly independent from the other. They are to be used in the nature of checks and balances, and final value estimates should be based upon the numerous reactions to these tests.

Importance of Equalized Assessments - The "*fair and reasonable market value*" of each parcel of real estate and item of personal property subject to property taxation in the county and a resultant equitable apportionment of the tax levy should be the goal of an assessment roll. Therefore, the primary objective of mass appraisers should be to achieve equity of assessments in accordance with legal requirements - without detriment to the accuracy of individual property values - to the end that costs of government shall be apportioned among property owners on the basis of the value of their property. In short, that all property owners shall be fairly and equitably taxed. Equalization of assessments is upset by each inequality because an inequitable assessment generally tends to shift a part of the tax burden from those who ought to pay to those already paying their fair and proportionate share.

The fee appraiser does not have the responsibility of equalizing valuations. In the appraisal of a property, he/she is concerned only with its value. Whether the valuation is equitable with other properties is of no consequence to him/her. In this respect, the mass appraiser's duties and scope of work go beyond the bounds of the fee appraiser's. Occasionally, in representing a client in an assessment complaint, the fee appraiser is concerned with equity of valuations.

In this connection, attention is directed to a common error in assessment terminology; that of referring to "*uniformity*" instead of "*equity*" of assessments. If all lots in a taxing jurisdiction were valued at \$1000 each, or all unsubdivided tracts of land at \$500 per acre, you would have uniformity, but you certainly would not have equity. "*Uniformity of methods*" is frequently confused with "*uniformity of assessments.*" The assessor should strive to achieve equity of assessments by means of uniform and standardized methods.

Assessment at fair and reasonable market value, as required by the laws of Alabama or at a uniform percentage of fair and reasonable market value applied without deviation to all properties is essential for an equalized tax roll. To achieve equity, it is important for the appraiser to think in terms of "*fair and reasonable market value*" regardless of any percentage that may be used in establishing assessed valuations. In other words, it is not possible to use a percentage of "*fair and reasonable market value*" without first knowing what that "*fair and reasonable market value*" is.

VALUE CONCEPTS AND CONNOTATIONS

No parcel of real estate has any value until someone wants it or needs it and has something of value to exchange for it. The measure of its value is estimated by the degree and need and/or desire and is generally expressed in terms of money.

Value is an undetermined term. It is not only a "word of many meanings," as stated by Mr. Justice Brandeis, but one having many shades of each meaning, sometimes nebulous in character. Its true meaning depends largely upon the purpose for which it is estimated and can be more clearly defined with an adjective of purpose.

To better understand these "*adjectives of purpose*," it should be noted that all real estate is divided into three broad categories - *service, income, and non-income*. The nature of each is virtually self-explanatory. Service properties include those capable of rendering service to the public, such as churches, schools, and governmental buildings. Use of such assets in financial statements generally provides higher credit ratings for the issuance of bonds. Income or investment-type properties are those capable of producing income to their owners, such as commercial, mercantile, or office buildings, hotels, motor-hotels, motels, theaters, farms, parking decks and lots; while non-income properties are those which have value, for the most part, because of amenities to be enjoyed by their owners. Single-family residences, including estates, country, resort, or other "second homes" fall in this category.

It sometimes happens that properties predominant in one category will be found in another. For example, privately owned schools operated for profit, would be classed as "*income*" rather than "*service*" properties.

With this explanation, the use of "*adjectives of purpose*" in defining the nature of the value estimated can be briefly explored.

"*Insurable value*" is the cost of replacing property that has been damaged or destroyed. It is that amount the insurer uses as the basis for paying total loss or damage claims to the insured.

"*Loan value*" is that amount the lender is willing to risk on the value of the property as security for a loan. However, the reputation and financial stability of the borrowers and/or tenancy are factors often considered in loan negotiations.

"*Investment value*" represents the amount of capital required to produce a return satisfactory to the investor. It varies with the character of property and type of investor.

In this connection, it is helpful to know the three basic elements of a good investment; namely, (1) *safety of principal* (2) *yield on capital invested* (3) *liquidity*, which means the immediacy with which the investment can be liquidated or converted into cash, if and when desired.

Real estate is constantly in competition with other forms of investment, including bonds, stocks, and savings accounts and each parcel of real estate is in competition with other parcels of like character,

or nearly comparable in nature, and with other parcels of various types. For these reasons, the real estate market is said to be "*selective*." Those acquiring real estate - whether by purchase, lease, or otherwise - are able to choose among various properties, that certain one that best meets their need.

In the purchase of real estate, an investor of means may be satisfied with a safe investment, small yield, and ready market, such as a well-located mercantile building in the best business district or good shopping center under lease to prime tenants. On the other hand, an investor with only a moderate amount of capital would likely prefer a more hazardous risk, a relatively high yield, and less liquidity, such as housing in a low-income district.

"*Valuation under Eminent Domain*" means that amount of money that anyone having the legal right to condemn property for public use should pay an owner for the property taken. It is assumed, when property has been taken for public use, its owner will be put in as good position after the taking, as he was before. This is the law of "*just compensation*."

"*Appraisals for income tax purposes*" are made mostly for the purpose of estimating building values, their economic lives, and establishing allowable depreciation schedules thereon. (The federal government and states having income tax laws allow depreciation on buildings and other improvements as deductible items; but no depreciation is ever allowed on land until actually sold and a provable loss sustained. Depreciation is also permitted on items of personal property.)

Prior to the "*urban sprawl*" of municipalities and the introduction of shopping centers, an investor in downtown business property could study growth statistics, the directional trend of an area, and purchase property with reasonable assurance of steady enhancement in value. This carefully calculated "*unearned increment*" was a factor influencing his investment policy; a willingness to accept a more moderate annual return because of the future value enhancement. With decentralization, the development of shopping centers, creating higher downtown vacancy percentages and lower rentals, investors in central core properties began seeking higher yields to compensate for loss of the unearned increment factor. (In the opinion of many of the nation's leading real estate economists, this trend is now being reversed in many areas, with a slow but steady return to downtown.)

Appraisals are made for numerous other purposes, most of which require the use of "*market value*" as the qualifying adjective. They include those used as a basis for the sale or purchase of property; negotiating or renewing a lease; for gift, estate, and inheritance tax purposes; and for equitable divisions of property. In fact, in most appraisals made for loan and investment purposes and for property condemnations, "*market value*" is usually the adjective of purpose applied and accepted. It is generally considered to mean "*value in exchange*." There are many definitions of market value, most of which include the concepts of a willing buyer and seller, neither under duress to buy or sell, both fully informed of all facts about the property; an assumption of a reasonable time element, and effort in negotiation and, further, that all rights and benefits inherent in the property are included in the transfer. All definitions of market value presuppose that a meeting of the minds is possible; but even in a normal market; ready buyers are not numerous, especially for large properties. During a recession or depression, this fact reveals itself in relation to various classes of property in all price ranges, so that the market value of real estate is not always easy to ascertain.

Just as surely as the needle of a compass points true north, unless attracted by a magnet and set spinning in another direction, all definitions of value point to the market place, unless economic, sociological, political, or other forces are strong enough to alter them temporarily. "Market value" is, therefore, the term most generally accepted and in use. Many, if not most, courts use market value as the criterion for assessment purposes and have ruled that all terms attempting to set up criteria for property tax assessments are synonymous with it. This, then, coupled with equalization of all property values in a taxing jurisdiction, should be the property tax appraiser's goal.

The constitution and laws of Alabama require that all property subject to taxation be listed and assessed at "*fair and reasonable market value.*"

The appraiser should always keep in mind that it is property, not people, under assessment; that, if reasonable equalization is attained, the non-resident owner must be accorded the same impartial treatment as a resident-owner; that, in fact, all appraisals must be made with thorough impartiality, and with no taxpayer purposely favored or penalized.

As already noted, the term "*value*" can be more clearly defined and understood by the use of adjectives of purpose; furthermore, such qualifying words generally denote the purpose of each appraisal. They are also used to signify the highest and best use a property has or to which it can be put.

Before discussing the "*use value*" concept, the difference between "*price*" and "*value*" should be clarified. Much confusion envelops efforts to distinguish between the two terms. They are often used synonymously, although entirely different in meaning. *Value* is that overall general quality of worth which exists in a parcel of real estate, while *price* is a measure of its worth in terms of money. In short, "*price*" is what we ask, pay, or receive for a parcel of real estate, while "*value*" is what the "*price*" should have been or ought to be. In most instances they are the same, but it often happens a property will sell for more or less than its real, over-all, or intrinsic value, notably during periods of inflation or depression.

The value of any parcel of real estate results from the use to which it can be put and varies with the amenities afforded by or profitableness of that use, both present and contemplated. The U.S. Supreme Court has held that there is no pecuniary value outside of that which results from use.

In innumerable ways, the use value of real estate is undergoing constant modifications; thereby creating a fluctuation in value, sometimes moderate, at other times violent in nature. It is contingent upon population and follows it like a shadow. It appears with people and disappears when they leave. Many ghost towns bear witness to this fact. It is modified by the abundance or scarcity of land; is adversely affected by floods, windstorms, earthquakes, and other acts of nature, is modified by the "*cost of living*," "*building cost*" and other economic indices, including the value of the dollar, and supply and demand; abnormal conditions; and economic and commodity price changes. For example, ranch land values are affected from year to year by the price of beef, when meat prices are up, ranch land prices, if not actual values, are up. The selling price of a parcel of real estate can be adversely affected by death in a family, with resultant desire, or even necessity for immediate liquidation of the estate, and many other causes.

A multitude of values may be developed depending upon various appraisal purposes, influences, present and intended uses. Value is never static. Once estimated, it is seldom stationary and roams up and down the dollar sign with surprising agility. If the causes - economic, social, political, scientific, and otherwise, which affects real estate values -, continued unaltered, they would likely remain invariable or static, but they never have and never will.

It is this constant, almost daily change in values that creates a terrific volume of work for most property tax appraisers in their respective jurisdictions.

Appraisers do not establish property values; they merely interpret them. Values are created by acts of people in the market place. They reflect community thinking and action. Appraisers follow and record this thinking. They deal with public opinion. It is not always infallible. It sometimes happens a fee appraiser or experienced developer can see property advantages and resultant basic values in an area that have been overlooked by those so close to them they have become provincial in their thinking. To illustrate: A fee appraiser, developer, or mass appraiser may know that high, rolling land on the bank of a river, bay, or other waterfront in an area has a certain monopolistic character and has more real value for residential use than that on the main street. But, as long as the residents of the community feel that main street property is more desirable and pay higher prices for it, the appraiser should follow community thinking and action. He/she follows value in exchange (the prevailing court concept for assessment purposes) and not intrinsic value. In time, the waterfront property will probably sell at higher prices than frontage on the main street, but the appraiser is always in a position to follow these changes of en masse thought and action as they occur. The mass appraiser is bound by laws governing assessments and must adhere to market value concepts. The fee appraiser is not restricted in this manner.

There are two other distinct though related concepts of property value, described briefly for the benefit of those unfamiliar with them; "*subjective*," and "*objective values*." They are but different adjectives of purpose used to depict meanings previously described herein; the former referring to value for a specific owner or use value, the latter to the sale price or value in exchange. The term "*subjective value*" means the worth of property in the mind of one individual, based on that person's own feeling. The term, "*objective value*," means value based on external facts, rather than thoughts or feelings. A residence is used as an example. In the mind of its owner, it is worth \$96,000. Another person's value may be only \$90,000. The owner's reasoning is probably more practical because he has considered several amenities not known to or considered by the other. Both values, representing individual opinions, are subjective. In estimating the objective value of the property (which is market value), many yardsticks for measuring it are used. They were discussed in the preceding section and will be discussed subsequently in this section. In developing values, the appraiser in many instances may arrive at both subjective and objective values; the mass appraiser's concern is primarily objective value.

THE APPRAISAL PROCESS

The term "*appraisal process*" means the technique used by appraisers in formulating opinions of property values. It is an orderly procedure through which they are able to accomplish their objective - estimation of value. It also provides standards or a common terminology readily understood by those in the field of property evaluation, including attorneys, tax representatives, real estate brokers, accountants, and others affiliated with it. In short, it defines the problem, provides methods for solving it, and furnishes a common appraisal language, so that anyone informed on the subject in Birmingham readily understands what the person in Mobile or other parts of the nation is talking about.

There is a point beyond which the appraisal process cannot be simplified if accurate results are to be obtained, and there is also a point beyond which the process can become so complicated the results will not justify the work and expense involved. The average appraiser does not have sufficient time, funds, or personnel to go into a highly technical or detailed process of evaluation.

The three recognized yardsticks used in measuring real estate value - technically known as "*approaches to value*" - should be the same for both fee appraisal and mass appraisal; and, basically, the appraisal process is, or should be, the same in both. However, there are many differences in methods of application, especially when appraisal is for the purpose of taxation. (Only a few of such appraisals are made for other purposes.) Some distinctions have already been noted. With few exceptions, two principal causes underlie all differences, to wit: (1) *the fee appraisal involves one or a few properties and is "retail" in nature, whereas a mass appraisal embraces hundreds and thousands of individual parcels of real estate and is "wholesale" in character* (2) *the fee appraiser is seldom hemmed in by legal restrictions, but the mass appraiser is limited by statutory provisions and their interpretations by the courts.* His/her first guide to the standard of value for assessment purposes must come from the statutes and court interpretations of the same. (In many states, varying standards of evaluation have been established for different types of real estate.)

In view of the large number of properties involved in each taxing jurisdiction - all required by law to be assessed each year - the mass appraiser has to take short cuts in using conventional methods of appraisal. He/she uses what might aptly be termed a "*shorthand system*" of appraising which, properly applied is both rapid and highly accurate. It is a standardized, scientific method which has been developed throughout the years by the best minds in the mass appraisal field; a system whereby most components of value, both land and improvements, can be readily checked off on a property record card while on the property, which avoids the necessity of tedious work and time spent in making field notes. It is a system of "*assembly line*" production, described in previous and subsequent chapters. A working knowledge of conventional methods is of material assistance to the mass appraiser in that it makes it easier for him to understand and apply wholesale methods. For that reason, they are discussed herein; but most of the text is concerned with methods of mass appraisal, which are emphasized throughout.

Prior to further discussion of value approaches and the appraisal process, it should be stated emphatically that in all appraisals, both conventional and mass, land and building values should be separated. This is a sound and logical procedure for the reason that, as a general rule, they travel in opposite directions, with land values increasing and building values declining. Many graphic

illustrations of this fact could be provided, notably in those areas where business or industry starts moving into a residential section. The land shows steady value enhancement, while existing old structures show constant deterioration and loss of value, often times to the point of being liabilities to the property as a whole.

The three approaches to value - "*market data*" or "*comparative-sales*," "*cost less depreciation*," and "*income*" - are all made on the basis of data comparisons; the cost of similar properties in the market place; and the cost of similar structures or the cost of similar incomes.

In considering these value approaches, it should be observed that, generally speaking, a property cannot have a higher value than the price at which one equally desirable can be acquired; a value in excess of its cost of replacement new or in excess of the amount upon which it is capable of producing a return consistent with that expected from investments involving similar risks.

The type of property and purpose of the appraisal are foundational to the application of the valuation process. The fee appraiser generally has a different purpose for each appraisal assignment - sale, purchase, loan, condemnation, estate, gift or income tax, lease, property distribution, or other. But, in his work, the mass appraiser's purpose of appraisal of all property is the same, an estimation of the "*fair and reasonable market value*" of each property and equalization of all properties. The only way any property owner can be treated equitably is for the appraiser to make certain the appraisal of that single property is based upon the same unvarying standards of value used in making the appraisal of all other properties.

THE MARKET DATA OR COMPARATIVE-SALES APPROACH

Land is fixed and cannot be moved from one area to another, is strictly local in character, and no two parcels are duplicates. There can be no exact guide to the market value of a parcel of real estate, such as that which exists for bonds and stocks listed on the various exchanges or the bonds and/or stocks of a corporation traded "over-the-counter." Any person owning listed bonds or stocks, regardless of where he resides, can ascertain from hour to hour, during five days of each week, the market value (selling price) of the same; and anyone owning unlisted bonds or stocks can generally know their value from day to day. Furthermore, each bond or share of stock of like issue has the same value as every other one, because the same company is behind the bonds and/or shares which have been issued by it, with the same characteristics of operation and assets - management, markets, surplus, resources, and other factors. This means that such securities are always liquid, especially those listed, and can be readily sold at any time the exchanges are open. Not so real estate. When one is requested to estimate the market value of a property, he can neither offer it nor one exactly like it for sale and, in that manner, estimate its price. The only possible method is to assemble all available market data, both current and of fairly recent years - actual considerations involved in all "*arm's length*" transactions; sales, leases, and others, including bona fide ask and bid prices - and translate them to the subject property or properties. Before proper comparisons can be made of all parcels that have been exchanged in the market place with the property or properties under appraisal, certain adjustments or refinements are generally necessary. Since all properties possess different attributes and the time element also differs, with prices generally fluctuating from year to year, adjustments may be required as to time of the transaction, location, topography, size, area, age,

quality and condition of improvements, and other factors of parcels used in comparison. In making these adjustments, the judgment of the appraiser in interpreting various differentials and giving the correct amount of weight to the proper factors is of utmost importance. It requires that careful study be given each fact in relation to all other facts. It comprises the analysis part of the market data approach.

When the work is completed, the result is what the current active and prudent buyer of real estate would probably pay for the property. It should be re-emphasized; there can never be a determination of value, only an estimate.

The market data or sales-comparison approach is the oldest, best understood, and most generally used yardstick of value measurement. In an active market of comparable properties, it will reflect the "*willing buyer, willing seller*" concept of value with a fair degree of accuracy. It is an indication of market price, although it may not of itself reflect "*fair and reasonable market value.*"

As has been stated, this approach is essentially a method of estimating the price for which a property would probably sell by comparing its characteristics with those of similar or nearly similar properties that have sold recently in bona fide transactions. It is based upon the principle of substitution, previously described, which presumes a prudent purchaser will compare various desirable elements of the properties under consideration with those of similar or almost similar properties that have been sold recently and select the one that seems to him to be the "*best buy*" from a viewpoint of both needs and price. It also is based on the supposition that sellers will attempt to get the highest prices obtainable for their properties.

Since all properties are heterogeneous, every one presents important or unimportant differentials in character from similar properties with which comparisons are afforded. A careful estimate of the degree of difference or similarity is required.

The market data or sales-comparison approach is applicable to all classes and types of property that are traded in the market place with any degree of frequency. Large properties and those used for special purposes are seldom traded in the market. When special purpose properties are offered for sale, buyers are difficult to find, even at sacrifice prices. Such structures do not lend themselves to comparison with others. For that reason, comparisons are difficult or impossible to make, and other approaches must be relied upon. In such instances, other elements considered must be carefully weighed in the light of the statutory requirement of "*fair and reasonable market value.*"

The comparative accuracy of value estimates made through use of this approach will obviously be in proportion to the degree of care and pains-taking efforts with which data affecting the properties under appraisement, both as to quantity and quality, are gathered, screened, and intelligently interpreted.

Appraisers should never hesitate to seek information concerning property values in a diligent manner. All available sources should be explored. There is no better method of becoming informed on values of the various classes and grades of property than by studying economic conditions and trends of the county, neighborhood by neighborhood, and all factors influencing or pertaining to property values. An appraiser can have too little data and should guard against being influenced by

one or two sales. On the other hand, it seldom happens he can have too much information. The more information about the property or properties under consideration, including economic, social, and political backgrounds, the more accurate the appraisal will be. It is certain the value estimate cannot be any more accurate than the facts upon which it is based. **No appraiser has any right to make value estimates based upon opinions, hunches, or rumors.** An opinion, as to the sales price of a property, can be erroneous and misleading when based upon a hunch or hearsay. Details of the transaction are usually easy to ascertain and verify through reliable sources. An opinion, as to the percentage of vacant or unsold houses in a county or area, is not apt to be very accurate from observation, hearsay, or counting those in only two or three blocks. Highly accurate information (the correct percentage) can usually be obtained from several reliable sources - federal, state and local.

In using the market data or sales-comparison approach, all available market *data* must be gathered in an orderly manner, verified, and carefully screened to be certain of having only such information as is pertinent to the property or properties under consideration. Only bona fide, voluntary, and fairly recent transactions should be considered. As previously stated, the number of transfers available is an important factor, since most accurate results depend upon a considerable volume of sampling. This sampling must be sufficient to establish a pattern and secure a reasonably accurate indication of market value for the class or type of properties currently being considered. This should include, but not be limited to, information on market conditions and trends in each section of the county; current sales, prices being asked by owners, offers made, if any, leases, rentals, property mortgages, and amount of insurance.

Due to the large volume of properties in the county to be assessed each year and the time limitation imposed, the appraiser might and, in fact, probably would find it necessary to omit from the data gathering program any market information other than sales, asking prices, offers, leases, and rentals. It is sometimes possible to confuse the final study and analysis with inconsequential, irrelevant, or false data. It must be such as to have an immediate factual and logical bearing on the problem at hand.

Prime sources of market information include considerations stated in deeds, news stories concerning property transfers and advertisements of offers to sell contained in local papers, both classified and display; for sale or rent signs posted on properties by both owners and real estate brokers; interviews with property appraisers, knowledgeable real estate brokers and traders, especially those best informed concerning the area presently under consideration.

In the process of screening and verifying market data, many transactions can be discarded immediately as worthless by a cursory inspection. They include transfers between members of a family, allied or intra-company deals (usually made for income tax purposes); forced and distress sales; an exchange of properties, where prices have been jacked up for trading purposes; sales which, in effect, are only property options; those purely speculative in nature, as evidenced by the terms of sale; properties purchased as income "*tax shelters*," those too out-of-date for consideration; quit claim deeds; and others.

Each market transaction should be verified with the grantor, grantee, escrow or closing agent or the real estate broker who handled it. Facts to be verified include the legal description and location of

the property, date of sale or lease, grantor, grantee, consideration and terms of sale. In each instance, it is important to know whether or not the price paid included any equipment, furniture, or furnishings and, in the case of agricultural property, any livestock or growing crops, especially those nearing maturity. Where any items of personal property are included in the price paid for the property, estimated value of the same should be deducted in arriving at the actual price paid for the real estate.

For the work of estimating "*fair and reasonable market value*" to be most effective, the appraiser must establish an orderly process for assembling and maintaining market data. In fact, there is no advantage in collecting data unless it can be located immediately when needed without losing hours of searching time. The process of assembling and maintaining this information is accomplished primarily in two ways; (1) *by the use of computer database programs and applications* (2) *the preparation and use of manual property sales files and maps. Such records will not only keep the appraiser informed on current market transactions - prices at which properties are sold, leased, or rented - but, if the database, sales files and maps are kept up to date, will afford quick reference to property sales comparisons.*

The establishment and maintenance of computer systems, sales file records, and tax maps has been described in a previous chapter, so that a brief discussion of the subject at this point should be sufficient.

(1) *Use of card systems or other forms in filing and correlating sales data.*

As previously noted, the primary source of market data is records in the probate office of each county - deeds of conveyance, sales contracts, leases, and mortgages - and should be taken off the probate records periodically by the appraisal staff. Each appraiser should use the method best suited to the type and volume of work and the size of the staff. The forms used are not too important, but use of some efficient system is highly important.

A form for use in listing sales and other market data has been prepared and can be modified to meet the needs of any appraiser's office. It can be a printed or copied sheet or card. All data should be transferred to property record cards and a computer sales file database. In fact, as much information as possible should be recorded on the property record card for each property. It will save much of the appraiser's time.

The accumulation and orderly arrangement of market data is a great advantage to the appraiser in that it assists in determining the value range of properties in a given area (*a subdivision block, development, or entire section*) that possess similar general characteristics. The market data can be divided into as many type-classifications of sub-classifications as may be necessary. In areas of similar properties, they can generally be coded into neighborhoods.

The fee appraiser, generally concerned with only one or a few properties, is expected to spend considerably more time and go into much more detail in developing conclusions of value through this process than is possible for the mass appraiser. When a mass appraiser uses such a procedure, the process and forms used must be abbreviated.

In preparing narrative-type appraisal reports, the fee appraiser usually explains in some detail the manner in which pertinent data has been used and the conclusions in each of the value approaches employed. In the process of comparing similar or almost similar properties previously sold with the property under appraisal, the appraiser lists sales which have been considered and describes each property sold - date of sale, price at which sold, property location and description front footage, depth, front foot value indicated by sale, type and condition of improvements, depreciated replacement cost, neighborhood, elevation, and other data - and assigns a numeral or letter to each sale listed. The appraiser then explains differentials of each property enumerated from those of the subject property and rates them as poorer or better by a plus or minus percentage factor, which can be converted into dollar amounts. A percentage factor is used in the process of making such adjustments as are necessary to reduce relatively comparable sales to a common denominator with the property under appraisal. The comparison process, as set forth in a narrative appraisal report of this nature affords the reader an understanding of the various factors employed.

The comparative sales process for mass appraisal is, however, considerably more complicated. The volume and variety of properties in any county requires the use of automated methods for data storage and analysis of comparable sales. Maintaining a comprehensive and current file of sales data is essential for all appraisal offices. Computer automation enables the appraiser to stratify data and perform comparable sales analysis on any strata of property classification from a central database. Computer automation for this purpose can be as simple as a stand-alone personal computer with a simple database and spreadsheet program or as sophisticated as a fully integrated CAMA/GIS system. The CAMA/GIS system can produce any number of reports and spreadsheets of data analysis as well as maps with color graphics of the particular sales analysis.

These sales maps can be used not only in valuing each parcel of real estate and securing equity of assessments, but are effective in convincing taxpayers their properties have been fairly and impartially appraised and that they are on an equal basis with others. When sales records are adequate, properly maintained and used, the appraiser is able to accomplish highly satisfactory results.

In applying the market data or sales-comparison yardstick for measuring property value, the "*ceiling*" is usually represented by prices asked for properties and the "*floor*" by offers from those desiring to purchase. (Unlike listings or offers to sell, an offer to purchase is not usually a matter of general knowledge. The best sources of information on offers made to purchase are real estate broker and traders.) Between the two extremes - "*ceiling*" and "*floor*" of value - sales of comparable or nearly comparable properties (if sufficient in number to establish a pattern) will provide a somewhat realistic indication of "*fair and reasonable market value.*"

Locational factors - social environment, proximity to schools, churches, markets, recreational facilities, hospitals, transportation, utilities, nuisances, and others - strongly influence market prices and tend to establish ranges or limits of value within the areas affected by them. They are also the cause of many appraisal headaches. While a church, school, or hospital may be a distinct asset to a community, it usually has a depreciating effect on properties immediately adjoining it. A fire station is another community asset that depreciates the value of properties adjacent to it. Locational factors explain why a residence of certain specifications, quality of materials and workmanship, located in one section, will sell for a considerably higher price than its counterpart located in a less desirable section.

Adjustments in market data necessitated by locational factors are usually the most difficult to make. In the case of area nuisances, such as an improperly constructed sewage disposal plant with escaping fumes, the approach to proper adjustments is sometimes possible by ascertaining lending policies of financial institutions - a differential in the percentage of value on which a mortgage loan is made in the area affected as compared with the percentage of value on comparable properties in other areas.

The preparation and use of property sales and other maps.

A sales map of each section or subdivision in the county should be prepared and all market data recorded on it for ready reference and comparison. GIS systems greatly simplify this process, however; manually prepared maps must be maintained where computer automation is not yet available.

Information concerning the amount paid and date of each sale, as well as verified asking prices and offers to purchase, should be posted to the sales maps, directly on the parcel of real estate involved in the transaction. Anyone using or examining the maps will be able to see at a glance all sales, ask and bid prices of properties surrounding the one under consideration, and the dates the sales were consummated.

Many other types of maps will assist the appraiser in expediting his/her work and securing more accurate and equitable assessments. These include but are not limited to:

"Utility improvement maps," showing by various colors the location of water, gas, sewers, pavements, electricity, and transportation. The same maps can also be layered to show elevations, especially low or marshy areas, streams, lakes, ponds, and ditches.

"Zoning maps" showing county laws and/or municipal ordinances controlling property usage, if any. Prepare these maps in colors for quick reference. On this set of maps, schools, churches, shopping areas, parks, and other recreational activities can be denoted by the use of symbols.

It is important to have another set of maps of the central business district of each urban area, on which leases and rentals can be posted, as well as sales and other market data. Results and analysis of business district values can also be shown on this set of maps. A separate set of maps can be layered for traffic surveys and pattern studies, if desired.

In many areas, especially of higher values, it is helpful to have a set of *"block use maps,"* showing the predominating use of property in each block. This set of maps can be combined with zoning maps, if desired. A set of *"block outline maps,"* without lot or other parcel delineations, is sometimes prepared and used to good advantage in the assessment of land in central and outlying or strip business districts. They show by comparison the percentage of value each block bears to the one that has the highest pedestrian traffic count, highest rentals, and value, commonly known in real estate parlance as the *"100 per cent"* block. Generally speaking, ordinary tax or land sales maps are sufficient for the purpose. Use of these maps will be described in the chapter on evaluation of land.

The larger the map scale, the more efficient and satisfactory will be the result of their use. Large-scale maps (at least 50 feet to the inch) are vitally important for use in commercial districts of urban areas.

Through proper use of the various types of maps described, the work of comparing, analyzing, and "*adjusting*" all elements of value simplifies the task of converting market data into X number of dollars per front foot, square foot, or per acre, depending upon the land classification under consideration. In some instances, where there has been a lot of activity, results are almost automatic.

As a general rule, the bulk of all sales data involves properties improved with buildings. Obviously, in the appraisal of improved properties, more adjustments are required than for land evaluation. Such adjustments include physical characteristics of both site and buildings, but the process described is applicable.

In selecting sales for use in the evaluation of a property, it is fundamental that greatest weight be given those properties considered most comparable to the one under consideration. The nearer the comparability, the more accurate the analysis will be.

In the evaluation of residential properties, fee appraisers make adjustments for landscaping, a factor not ordinarily considered by mass appraisers. Because of time and other limitations, the mass appraiser usually works on land unit averages. Periodic inspections and evaluations of the landscaping of each property in the county are not feasible. There are other considerations for this policy. When an owner landscapes a property, a contribution is made to the over-all attractiveness, desirability, and value of all properties in the community, which are reflected in property sales. Most lawns, shrubbery, and many varieties of trees are perishable in that they can be destroyed over-night by freezes, floods, droughts, plant diseases, or bugs. A mass appraiser would find it quite difficult to keep track of damages, new plantings, and other grounds changes each year. Yard maintenance costs are high, and it is believed a policy of not penalizing a homeowner for maintaining orderly and attractively landscaped grounds is sound. However, since value is added to a property through landscaping, it can be given consideration in the appraisal process, if desired. In that event, adjustments would have to be made for it in the sales-comparison market process.

Where sales used in the market comparison approach to value are improved with buildings, and the proportionate part of the total price which was paid for the land is desired, it can be obtained by subtracting from the over-all consideration the value of improvements, computed by estimating the new cost of the same, less depreciation. It is a "*land residual*" method of evaluation. Conversely, where the residual value of the improvements is desired, it can be ascertained by deducting the market value of the land from the total price paid. This is possible only in instances where land value can be estimated with a fairly high degree of accuracy. It is a "*building residual*" process.

Needless to say, properties that have been sold in the market and are used as comparable with the subject property should be inspected.

In sales-assessment ratio studies and analyses, market data are used in the process of comparing market and assessed values. The ratio is the percentage which assessments bear to market values.

The accuracy of sales-assessment ratio programs depends upon the volume of sampling, proper screening and verification of data assembled and careful analyses by those experienced in the appraisal and assessment professions. Such studies, haphazardly or improperly conducted, can and in many cases have resulted in grossly misleading conclusions.

The market data approach to value is the only one of the three approaches that reflects the balance of supply and demand in actual trading in the market place.

THE COST APPROACH

Replacement (or Reproduction) Cost, Less Depreciation

The cost approach to value, discussed briefly earlier in this chapter involves first an appraisal of the site, considered as though vacant, by means of the sales-comparison approach, to which is added the new cost of improvements, less depreciation. It is sometimes referred to as the "*summation*" method.

It is the primary approach to the value of improvements and one of the most effective instruments an appraiser can employ. It measures costs incurred in the production or acquisition of property improvements as of a given date.

In any logical appraisal procedure, it is the first approach to value applied, because the market data and income approaches cannot be used effectively until after physical aspects of all properties have been recorded and estimated. Comparisons of improved properties previously sold in the open market with others under appraisal cannot be made with accuracy without basic construction information; nor can an opinion as to the income value of properties be formulated without knowledge of differentials in physical characteristics, size, type, and number of rental units and other elements.

The value estimate resulting from the use of the cost approach will attain a high degree of accuracy if the land value estimate is sound, if the new replacement cost of the building and other improvements has been estimated accurately, and **IF** the various factors of depreciation have been correctly analyzed. **BUT** these elements cannot be measured with precision. While a fairly high degree of mechanical accuracy is obtainable in estimating the new cost of improvements, the other factors of land value and depreciation (physical deterioration, functional and economic obsolescence) cannot be measured with any exactness. The final estimate by means of this approach depends in large measure on the training, experience, and analytical ability and judgment of the appraiser.

It usually establishes the upper limit of property value because it is not likely that a prudent purchaser would pay a price for a property in excess of what it would cost to duplicate it.

The assumption that the upper limit of value of a building is the amount required to replace it at a certain time is not always valid. Often, the cost approach will not bear the slightest relation to the productivity or market value of the property.

When there is a shortage in housing, commercial or industrial space, a purchaser is sometimes willing to pay a premium for an existing structure rather than wait months for an equivalent new building to be erected. A "*scarcity premium*" becomes a part of the consideration paid for the property. On the other hand, it is also true that, for various reasons, many buildings are not worth their cost of replacement, notably those which suffer from functional and/or economic obsolescence (explained in the section on depreciation). This applies to some buildings from the very day construction is completed. There is an old adage that bricks and mortar do not create value. If they did, the entire valuation process would be greatly simplified and a lot of money saved which is otherwise lost through poor real estate investments.

The cost approach is a process popular with and extensively used by mass appraisers because it lends itself to a systematic and uniform procedure for all improved properties. In the appraisal of buildings and other improvements through the use of this approach, it is essential that detailed building classifications and cost of pricing schedules be prepared and used. Because prices of labor and materials vary from one section of Alabama to another, they should be predicated upon prices of labor and materials prevailing in each county, if accurate results are to be obtained.

Categories of various structures, together with schedules of unit costs of construction for each, have been prepared, and are contained in a separate chapter of the manual, together with ample guidelines or instructions, fully illustrated, for rapid and efficient application. Also, included in this chapter is a discussion of depreciation and how it is measured. Cost schedules show the price per square foot for new construction of each class and type of building, plus special schedules for use in making adjustments where there are deviations from standard specification. These schedules are based on prevailing labor and materials costs, including both direct and indirect costs, the latter being architectural fees, financing costs, carrying charges during construction, overhead, and profit. In preparing these costs schedules, existing buildings in each class of construction were inspected and checked for actual cost.

A heavy fog of confusion has enveloped the use of the terms "*replacement value*" and "*reproduction value*." Until relatively recent years, the terms were used interchangeably as though synonymous in meaning. In the gradual evolution of professional terminology, resulting from appraisal experience, the terms have come to have different meanings. "*Replacement cost*" is generally construed to mean the cost of reproducing a property having a utility equivalent to the one under appraisal, at prices of materials and labor prevailing on the appraisal date; while "*reproduction cost*" refers to the cost of reproducing the new replica property with the identical or almost similar materials, predicated upon prevailing costs on the date of appraisal. Cost estimates of appraisers should correspond closely to replacement costs. This method provides a gauge by which to compare properties of like size, shape, stability, and utility.

In many instances, reproduction costs are impossible to estimate because identical materials used in the structure are not obtainable. Even if obtainable, innovations in materials, architecture, and construction practices would render them undesirable by present standards. Today, no one wants to build the type of gingerbread structure that was popular around the turn of the century, or the building with wide halls, high ceilings, and air-wells built for maximum ventilation before the advent of air conditioning.

In any discussion of the cost approach to value, appraisers should be cautioned against including "excess costs" in the value estimate. The term "excess costs" means such costs are in excess of normal construction costs. To illustrate: while constructing a large department store building, the contractor ran into an underground spring not revealed by soil borings. The cost to remedy this condition and provide a waterproof basement was in excess of \$300,000. To include this in the new building cost estimate would be grossly unfair. In constructing a large resort hotel, the owner wanted it completed in time for the opening of the tourist season and paid heavy bonuses and overtime wages to accomplish his purpose. These costs were far in excess of normal or average construction costs and should be excluded. An excellent illustration is afforded by the Kaiser aluminum plant in the City of Chalmette in St. Bernard Parish, near New Orleans. It is the largest smelter in the United States. At the time the plant was originally constructed, an expensive fume control system was installed. It proved ineffective and was replaced by another system at a cost of many millions of dollars. Although the fumes were not harmful, they were objectionable. This fume control system, installed at tremendous cost, does not make any contribution to the efficiency of plant operation. From a standpoint of production, the plant could operate as well without it.

Replacement costs should be predicated upon average costs; what the cost would be under normal not abnormal or unusual conditions.

THE INCOME APPROACH

This approach affords a third avenue by which to estimate value. It is particularly useful in the appraisal or assessment of income-producing property. Every assessor should have a working knowledge of the techniques employed in its use. In the application of this approach, it should be constantly kept in mind that the primary function of income property is the production of income, and consideration of investment-type real estate from any other viewpoint is a delusion. Such properties are held, bought, and sold on a basis of their earnings or income-producing potentials, so that the "capitalization of income" is the controlling approach in the evaluation of income properties.

As previously noted, it is a method by which anticipated earnings are converted into a capital amount. It should not be used to the exclusion of other approaches to value. The prudent investor, unlike the speculator, usually purchases an investment-type property on the basis of existing conditions, discounting any fond hope of rapid upgrading of its value. This should be the policy of the mass appraiser, as there is no justification for taxing possible or even probable value. The tax appraiser deals with conditions existent on October 1st of each year.

The income method of valuation is not as much in use by mass appraisers as the other two approaches, but it can be extremely useful to them in making value estimates of income properties, in appraising properties of other types, in explaining and defending appraisals when attacked by those who used the income approach in obtaining their value estimates, and in estimating effective obsolescence allowances. Knowledge, experience, and judgment are essential ingredients in its correct application; and both extreme care and caution must be exercised in the process of preparing gross income and expense schedules, net income estimates, capitalization rates, and depreciation allowances. A slight error in any one of these elements can make a vast difference in the result obtained.

Parenthetically, it might be of interest to know there are those in the property tax field who contend all property valuations for tax purposes should be predicated upon income alone, as in England. This would not only be highly impractical, as might well be imagined, but would convert the "property tax" into an "income tax."

In appraisal and assessment practice, there is a maxim that "appraising stops where speculation begins."

In England, the tenant pays the taxes. There is no tax on the capital value of land and improvements. Instead, there is a tax on the rentable value of the property; and the tax is paid by the occupant, whether tenant or owner.

The conclusion resulting from application of the income approach represents an estimate of the price a prudent investor would likely pay for future benefits of ownership of a certain property in comparison with other parcels of revenue-producing real estate, or other forms of investment available. The value estimate is predicated upon a forecast of the effective net income expectancy of the property during its remaining useful or economic life.

The terms "gross income" and "net income" were defined in the preceding section. They are terms generally familiar to most taxpayers. The term "capitalization rate" was referred to. It is not a term familiar to most people. "Capitalization" means simply "the valuation of capital," and "rate" refers to the interest rate used in the valuation of capital.

In applying the income approach to an investment-type property, several steps are involved. In the order of progressive stages, they are:

1. An estimation of the average annual gross income expectancy, including provisions of reasonable or normal vacancy allowance and rent collection loss.
2. An estimate of average annual expenses.
3. Estimated resultant average annual net income.
4. An estimate as to the remaining useful or economic life of property improvements, in order to establish a probable duration of income and the rate of recoupment of capital invested.
5. Selection of appropriate capitalization rate.
6. Conversion of estimated net earnings or cash flow into capital value through a capitalization process. (There are several variations of this final step.)

The first step is to carefully assemble all income and expense data of the property, including past and present operating statements, existing leases, and renewal options, as well as rental rates of the property under appraisal and comparable properties. The appraiser needs to know the operating

experience of the property. When available, such statements are usually obtained for the past three years; in some instances those covering the past four or five years are secured. The past operating history of the property is relevant only to the extent it supplies an indication of what might reasonably be expected in the way of future net income. The history may offer good evidence of what to expect in the future. The prospective purchaser is buying future income. Sometimes operating statements are not available, in which event the appraiser must prepare estimates based on rental and occupancy rates and expenses of similar properties in the area. (Experienced property managers and appraisers usually predicate their estimates and comparisons of both rentals and expenses on a "square foot" of rental area basis. This is determined by dividing the annual income by the rentable area. For example, a store space containing 2,000 square feet is rented at \$2400 per month, or \$28,800 per annum. This is a rate of \$28,800 divided by 2,000, or \$14.40 per square foot.)

Generally speaking, it is considered satisfactory appraisal practice to use average annual income and expenses, provided they have been relatively stable for the period covered by operating statements examined and there is ample evidence such conditions will continue. On the other hand, if the present trend is upward/downward, as revealed by past operating records, prevailing economic conditions, or other factors, it would be sound appraising to give more weight to operating experience of the latest year or two, and present economic barometers. In such instances, it is necessary to make adjustments of income and expense statements to properly reflect what might reasonably be expected in the near future. It is a process of "*reconstructing*" income and expense schedule to conform with manifest conditions. In preparing reconstructed statements of income and expenses reasonably expected, the appraiser must find logical or satisfactory answers to many perplexing questions: Is the property competently managed? (Often a very important element); is the present rental schedule too high or too low and how early can rents be raised or how soon will they have to be lowered, and to what extent? If a portion of the building or all of it is remodeled or modernized, how much would it be apt to add to the rental rate and what will be the cost of such a program? In other words, would the increased revenue justify the cost? Is the trend of property taxes and operating expenses upward or downward, and to what extent? It often happens the appraiser's reconstructed estimates of future income and expenses will deviate from actual, current figures. Any one of the many factors could be responsible for such deviation.

What the space would bring in the open market as of the appraisal date is called "*economic rent.*" Actual rent being received, where the tenant holds a rental contract or lease, is known as "*contract rent.*" Needless to say, as long as rental contracts or leases are in force, the contract rents should be used in preparing income estimates. Adjustments are made on a basis of rents obtainable upon lease expirations.

In this area - preparation of future income and expense estimates - the work of the fee appraiser is considerably more detailed, time-consuming, and exacting than that of the tax appraiser. The fee appraiser is required to make forecasts, which the tax appraiser makes in a limited manner only, as later explained. The gross income estimate, sometimes referred to as "*potential gross income,*" includes total revenues from all rentable space in the building as though fully occupied, plus any other revenue from the property, such as billboard space on the wall or roof of the building. From this gross income estimate is deducted reasonable allowances for vacancies, collection and other losses. This is generally estimated on a percentage of total revenue basis, and the percentage used will vary according to the type and age of the building, location, and neighborhood influences and

economic conditions at the time of the appraisal. A proper balance of supply and demand is of utmost importance. There is no formula or rule of thumb method for estimating this vacancy and other loss percentage; it must be estimated as accurately as possible from the facts on hand, both as to the property and conditions surrounding it, and for each parcel appraised.

To illustrate, let's assume the data gathering and analysis program has been completed in an appraisal of a mercantile building, containing three store units, in a good location, and the readjusted or stabilized annual gross income estimate is, in the judgment of the appraiser, \$1000 per month per unit, or \$36,000. In an analysis of the property, indicates that there has been no vacancy in the building in more than 20 years and that, should one occur, the space would not be apt to remain vacant for more than one month, due to favorable location of the property. Furthermore, the appraiser is convinced there has not been a collection loss for many years, and he feels justified in using an annual vacancy and collection loss estimate of only \$1000. This leaves an effective annual expense, including an allowance for depreciation (or return of improvement capital) aggregates approximately \$14,000.

In the process of estimating average annual expenses, the appraiser has estimated a depreciated replacement building value of \$100,000 and a remaining useful or economic life of the building of 20 years, or 5% per annum as straight-line depreciation (a re-couplement of building capital value over a period of 20 years), which has been included in the expense schedule. (A separate chapter on depreciation is included.)

Deducting estimated annual expenses, including depreciation allowance, from the estimated effective annual gross income, leaves an estimated net return of \$21,000.

It is further assumed that the appraiser has made a careful study of interest rates prevailing in the area - what a prudent investor in properties of this type expects in the way of a net annual return - and has decided that 7% would represent a return sufficient to attract a purchaser for the property.

As a final step, the net income is converted into capital value through the capitalization of income process - dividing the net income by the capitalization rate - \$21,000 divided by 7% which amounts to \$300,000. This is known as the "*direct capitalization*" method.

Through the sales comparison approach, the appraiser has previously decided the land has a market value of \$200,000; the property has a market value of \$300,000, and through the cost approach, that the building has a depreciated replacement value of \$100,000. With the three approaches resulting in approximately the same value estimate of \$300,000, the appraiser has every right to be satisfied with this reasoning. It happens in a relatively small percentage of appraisals made that value estimates of the three approaches coincide. The income process is described in the next several pages.

OPERATING STATEMENT

(Mercantile building containing three store units)	
Gross rent	\$36,000
(Each unit \$1,000 monthly)	
Vacancy and collection loss.	<u>1,000</u>
Gross income	\$35,000
Expenses:	
Real estate taxes.	\$ 5,425
Insurance	600
Management (5%)	1800
Repairs (estimated on past experience).	1125
Janitor service and utilities paid by tenants	
Depreciation, or return of capital; \$100,000 building value; estimated remaining life 20 years @ 5% per annum	<u>5,000</u>
Total Expenses	<u>\$14,000</u>
Net income	\$21,000
\$21,000 ÷ .07 = \$300,000.	

It will be noted the appraiser has correctly based estimates of gross income, loss deductions, and expenses on convincing evidence of stability and has used a capitalization rate acceptable in the local market. For example, with all units of the property constantly rented for more than 20 years, a favorable property location, and little likelihood of vacancy, it is more accurate appraising to use a realistic estimate of loss rather than some arbitrary vacancy and collection loss percentage. All estimates should adhere closely to realistic conditions. Analytical powers of the appraiser, applied to existing facts with common sense, will inevitably secure more accurate results than hypothetical reasoning.

Certain items of expense sometimes included in operating statements, especially those prepared for income tax purposes, have no place in the evaluation process. Since the purpose of an operating statement prepared for appraisal or assessment purposes is to denote the net income available to the owner of the unencumbered fee title to the property, it is proper procedure to exclude from the expense schedule interest paid on property mortgages.

State and federal income taxes are taxes on net income or profit and are not items of expense in the operation of the property and should be excluded. An owner's salary, or salaries of officers listed in the operating statement, especially where prepared for income tax purposes, should be examined carefully to be certain they are not excessive. Such salaries should be in line with those paid for similar services rendered comparable properties. Readjustments of this item are sometimes necessary in obtaining a true picture of net income to be capitalized.

There are times the appraiser is in doubt as to how to apply the income approach in valuing an owner-occupied building or one partly occupied by the owner. In either event, two methods are

available. The first is by comparing the space occupied with similar space where the rental is known; the second is by ascertaining the annual gross volume of business done by the owner-occupant, where possible, and estimating the amount of rent a business of the type he operates would normally pay on the volume done. This yearly rent amount can then be converted into capital value by the process described. While these percentages will vary from one location to another, there is an accepted range for each type of retail business that affords a fairly accurate guide for rent estimation. Many national retail trade associations (drugs, ladies apparel, men's furnishings, furniture, jewelry, and others) prepare rent percentage schedules for their own industries, and a number of schools of business administration have conducted surveys and made analyses of rent percentages applicable to various businesses. Some of these have confined their research and analyses to certain types of business. For example, Cornell University has specialized in gross income percentage factors for hotels, apartment hotels, motels, restaurants, and other eating establishments. Nationally known companies, notably National Cash Register Company and Dun & Bradstreet, have made similar studies. The National Association of Building Owners and Managers publish one of the most complete and accurate reports annually in book form.

Great care must be exercised in using percentage tables. Most of them are based upon operating experience of retail businesses in large municipalities. They are used as guides only. As a general rule, the lower range of percentages will apply when a high gross volume of business is done or anticipated, and vice versa.

Another note of caution: Where an owner or part-owner of a building conducts a business therein, estimated income from the property only can be considered. This estimate should not be confused with income from the business. The property and the business are separate and distinct entities. It is the property, not the business, which is being assessed. Personal property (furniture, fixtures, equipment, and inventories) used in conducting the business comprises separate assessable items, but not the business.

In the preceding discussion of the income approach, two statements may require some clarification; namely (1) "there are several varieties of the procedure for converting net income into capital value, which are more in use by fee appraisers than mass appraisers," (2) "the fee appraiser is required to make forecasts, which the mass appraiser makes in a limited manner only."

The "*direct capitalization*" technique has been described and illustrated. It is the simplest method used in capitalizing income, other than "*gross income multipliers*," subsequently discussed. With the exception of gross income multipliers, it is the method most often used by mass appraisers in evaluating income properties, others being too time-consuming for practical use and too technical for explanation to taxpayers. In using it, the recapture of capital on improvements (depreciation) is estimated on a straight-line basis and included in the schedule of expenses.

As previously stated, if appraisals are challenged by those who used variations of income capitalization techniques in securing value estimates, the appraiser should have a working knowledge of their character and application. He will also find them helpful in the evaluation of land in solidly built-up commercial areas where no land sales have occurred in recent years. The three principal variations of income capitalization techniques are known as "*residual*" methods - "*land residual*," "*building residual*," and "*property residual*."

These are terms applied to methods used in estimating the value of a portion of a complete property and denoting the difference between the value of the entire property and the value of the remaining portion, separately computed.

Land Residual Technique - Land is said to be residual in nature in that an investor is entitled to a fair return on money spent in improving the land and, in addition, receive an amount each year sufficient to recoup his investment in improvements, before receiving a return on the land. It is a method generally used when costs of improvements can be estimated with a fairly high degree of accuracy, such as a comparatively new building, especially where the site is improved to its highest and best use. In applying this process, the value of the building must be estimated. A fair return on estimated building value (interest and recapture of capital) is deducted from the net income estimate, and the "residue" of income then converted into land value by capitalizing it as follows:

Assumed average annual net income	\$10,000
Depreciated replacement value of improvements,	\$80,000
Estimated remaining economic life of improvements, 50 years	
Assuming a 7% return "on" capital and a 2% return "of" capital, or a total of 9%	
\$80,000 x .09	7,200
Residue of net income imputable to value of the land	2,800
This residual amount, capitalized at 7%, indicates a land value of \$2,800 ÷ .07, or \$40,000.	

<u>Total Value</u>	
Improvements	\$ 80,000
Land.	\$ <u>40,000</u>
Total.	\$120,000

Building Residual Technique - This method is more aptly applied when the improvements are old or in middle life, especially when they represent an improper use of the site or when the value of the land can be substantiated more easily and accurately than the building value. This technique reverses that used in the land residual method in that the value of the land must first be ascertained. An amount which represents a fair yield on the land value (interest) is deducted from the net income estimate, and the "residue" of income is then converted into a value estimate for the building, as follows:

Assumed average annual net income.	\$10,000
Estimated market value of the site (by the sales-comparison approach). \$40,000	
A 7% return (interest) on the estimated land value of \$40,000.	<u>2,800</u>
Residue of net income imputable to value of improvements.	\$ 7,200
This amount capitalized at 9% (7% interest plus 2% recapture of capital) = \$7,200 ÷ .09 or \$80,000	

Total Value

Land.	\$ 40,000
Improvements	<u>80,000</u>
Total.	\$ 120,000

Property Residual Technique - As indicated by the term "*property residual*," this method is concerned with both land and improvements as a unit - a whole property, not a portion of it - for the tenure of a lease or the remaining useful life of the improvements. It does not involve an estimate of value for either land or improvements.

When a property is under long-term lease to a prime tenant, such as a nationally known furniture store concern, and the estimated useful life of the building exceeds the term of the lease, this method of evaluation involves conversion of annual income payments into capital value by a process of discounting them to present-day worth and then adding to it the reversionary value of the property, also discounted to present worth.

Annuity tables are employed in the process, as subsequently explained. By way of illustration, let's assume a property is under lease to a triple-A tenant for a remaining term of 25 years, at \$6,000 per annum NET to the owner. By reference to annuity tables, it is found that \$6,000 net per annum, to be received for a period of 25 years, has a present value of \$6,000 x 11.438 (annuity factor of 25 years at 6%) or \$68,628 rounded to \$68,630. Since the property will revert to the owner at the expiration of the 25-year term, he has a reversionary interest in it at that time, the value of which is ascertained by discounting it to present worth. If we assume a reversionary value of \$120,000 in 25 years, the present-day worth of \$120,000 x .233 (discount factor for 25 years at 6%), or \$27,960.

Total Value

Annual income payments, discounted.	\$ 68,630
Reversionary value in 25 years, discounted.	<u>27,960</u>
Total	\$ 96,590

Where a lease specifies a "*net rental*," it means the lessor is to receive an annual rental net to him, with the lessee paying all property taxes, insurance, and costs of building maintenance (referred to as "*fixed charges*"), as well as operating expenses. A "*gross lease*" is one that provides for the owners to pay all fixed charges.

As there are many variations in leasing conditions, all leases should be carefully examined and analyzed. Most of them provide either for NET rentals to the owner or that he pay all fixed charges ("*gross lease*"), but some require the owner to pay only a portion of the fixed charges. For example, the lessor may agree to maintain the exterior of the building, with the lessee paying all costs of interior upkeep.

Percentage leases will be discussed under the heading of Capitalization Rates.

The property residual method is also predicated upon another assumption that, at the expiration of its useful life, the building will have no value; but the land, considered as though vacant, will have a reversionary value. The method used is similar to that employed in the previous illustrations; both the income stream for the estimated useful life of the building and the reversionary interest in the land are discounted to present worth. This method is applicable primarily where the building is old, the site under-improved, or the improvements have a short remaining useful or economic life.

Selection of a proper interest rate for use in the discounting process, where an old building with a short remaining life is involved, requires more skill than is needed where a relatively new building is leased to a prime tenant and its useful life exceeds the remaining term of the lease. It bears repeating that the capitalization rate should always be one to reflect hazards of the investment risk as accurately as possible.

Any attempt to predict the value of a reversionary interest, especially if projected very far into the future, is somewhat hypothetical and hazardous. Some appraisers attempt it; others use the present value of the property, or land, as its reversionary value. Not even skilled appraisers are expected to be prophets. However, in any discounting process the margin of error is greatly minimized by the shrinking value of money to be received in future years. It has been noted in the foregoing illustration that a dollar to be received in 25 years has a present-day worth of only 23 cents.

THE DISCOUNTING PROCESS

USE OF ANNUITY FACTORS

The value of an income-producing property is the present worth of its earning expectancy, or, as previously stated in a different way, the value of income property is indicated with a fairly high degree of accuracy by discounting its future earnings to present-day worth.

References have been made to "*annuity tables*" and "*annuity factors*" employed in the process of discounting future income to present-day worth. It is not the intent of this manual to provide text material on complex appraisal theories, techniques, and practices used by professional appraisers in applying the income approach to value. Ample textbooks are available for those who desire a broader knowledge of the subject. (A bibliography of textbooks generally in use is included in the Appendix). As previously noted, mass appraisers do not have the time for detailed analyses required in the use of these techniques and, as a matter of practicality, the average assessor seldom has a need for them in his/her work. However, it is important at times for him/her to have a general idea as to the meaning of the various terms employed if for no other reason than to know what appraisers who use them in challenging assessments are talking about. A brief description of these techniques may be helpful.

An annuity is generally thought of as a form of insurance; a fixed annual income to be received by a beneficiary for a definite period of time, or for life, after all premiums have been paid in one lump sum or over a specified number of years. As related to appraisals, a series of time payments comprising both interest on and a partial return of capital received from an investment in income

producing real estate is considered an annuity. The payment received from the property each year is generally thought of in terms of equal annual amounts called a "level annuity." However, a series of annual payments can also consist of increasing or decreasing amounts.

To illustrate, some leases contain "acceleration" clauses that provide for periodic step-ups in annual rentals; others provide for payments predicated upon "cost of living," or other indices, while others require property reappraisals at specified intervals as rent-paying determinants. A few, usually made by those in the twilight of life, provide for higher-than-current rents for the first years, with diminishing amounts throughout the remainder, in order to receive as much income as possible while still living. The important consideration is they are all scheduled income payments, and can be classified as real estate annuities.

A real estate annuity is a type of combined income - interest and partial recapture of investment - received periodically over a stipulated period of years.

No ordinary type of real property can safely be presumed to produce an assured periodic income except that leased to top-notch tenants, and such properties are fairly scarce as contrasted with those where the net income is not assured by long-term lease, or other guarantees.

The present worth of any amount due in the future, at 6%, can be calculated by successive multipliers of the amount by 0.9434. These multipliers have also been worked out in tables of compound interest for various interest rates and varying time periods. For example, the tables show that the multiplier for an amount due in 20 years at 6% is 0.3116 (obtained by multiplying 0.9434 by itself 20 times. So that \$10,000 due 20 years from now has a present worth of only \$3,116 at 6%. As has been stated, an examination of the table reveals that payments which are due a long time off have a relatively small value; so small in fact the errors involved in forecasting are greatly minimized in the discounting procedure. Results obtained from the application of this process are shown in Table III in the Appendix.

Present Value in a Series of Time Payments - Where there is a series of future amounts due; their present worth can be computed by multiplying each amount by its corresponding factor from the table and adding results. For example, let's assume the amounts due are declining each year, as follows:

First year	\$ 5,000
Second year	4,500
Third year	4,000
Fourth year	3,500
Fifth year	3,000

If the amount due a year from now is multiplied by 0.9434; the amount due in two years by 0.8900, the amount due in three years by 0.8396; the amount due four years hence by 0.7921; the amount due five years from today by 0.7473, and results of these calculations added, you will have the total present worth of the series at 6%.

	Amount	Present Value
Due in one year	\$5,000 x 0.9434	\$ 4,717.00
Due in two years	4,500 x 0.8900	4,005.00
Due in three years	4,000 x 0.8396	3,358.40
Due in four years	3,500 x 0.7921	2,772.35
Due in five years	3,000 x 0.7473	<u>2,241.90</u>
Total present value at 6%		\$17,094.65

From the above, it is quite clear the farther into the future amounts become due, the less present value they have, and the contribution to present value of amounts due at remote periods of time is small. It is payments in the first or early years of the series, which contribute most to total present value. This fact is of vital importance in any consideration of the nature of a forecast of earning expectancy.

By the way of further illustration, let's assume a series of five annual equal payments, each in the amount of \$5,000, at 6%. The following result is secured:

	Amount	Present Value
Due on one year	\$5,000 x 0.9434	\$ 4,717.00
Due in two years	5,000 x 0.8900	4,450.00
Due in three years	5,000 x 0.8396	4,198.00
Due in four years	5,000 x 0.7921	3,960.50
Due in five years	5,000 x 0.7473	<u>3,736.50</u>
Total present value at 6%		\$21,062.00

As already noted, tables have been prepared and published which eliminate most of the mathematical processes described and provide quick and ready solutions. For example, the total present value of \$5,000 to be received each year for five years at 6% is shown above as \$21,062. By reference to Table II in the Appendix, it is observed that the factor for determining the present worth of \$1.00 per annum at 6% is 4.2124 (fifth year shown under the 6% column). Multiplying the amount of \$5,000 x 4.2124 it is found the present worth of \$5,000 per annum for five years is \$5,000 x 4.2124, or \$21,062, which is the same as the amount arrived at by a series of multiplications.

It has been demonstrated that, to find the present day value of an income stream, a discounting process is applied. After the interest rate applicable to the property under appraisal has been selected, the appraiser or tax assessor can either make necessary computations or refer to published tables in discounting the various installments of the income stream to present value.

Two tables of factors are used in multiplying annual income payments to secure an indication of income value based upon recapture plus interest - Inwood Coefficient or compound interest valuation premise (Table II in the Appendix) and the Hoskold Sinking Fund Valuation Premise (Table No. I in the Appendix). The Hoskold premise assumes the entire investment will be retained

intact and bare interest for the entire term of the investment on its original amount, which is not the case with straight-line capitalization or the Inwood table.

Where there is a need on the part of the mass appraiser for a method of applying the income approach, he generally uses a straight capitalization method, previously described, or "*gross income multipliers*."

GROSS INCOME MULTIPLIERS

The use of gross income multipliers in the appraisal process provides a rule of thumb method of evaluation derived from the market data approach. In original concept and application, gross income multipliers were used as guides in testing comparability in the market data approach and are considered a part of that approach. They are used in comparing like properties of various classifications, including those, which are income-bearing, primarily as checks on value estimates obtained through other techniques. The use of income multipliers is also considered a part of the income approach because value estimates produced by them are based upon rental values.

In recent years, the gross income multiplier method has been refined in a way to make it a more effective tool for use by mass appraiser in mass appraisal programs. The method is, therefore, a segment of both the market data and income approaches. However, it bears a closer relationship to the income approach and, for that reason, is included in this section of the manual rather than as a part of the market data approach.

Most property owners or prospective purchasers are interested in only one line on the operating statement - "*that bottom line*;" the net income produced by the property. They are not interested in gross revenue, other than as an indication of what might reasonably be expected in the way of net income. Therefore, some form of capitalizing net income is by all odds, the most accurate method of property evaluation by the income approach.

The average mass appraiser cannot afford the time or expense required for such detailed analyses in assessing all income-bearing properties in a county. In appraising large and more complex types - office buildings, hotels, shopping centers, and others - some form of capitalization of income method should be employed, but a large number of income properties can be evaluated by use of income multipliers, especially when all properties involved in the process can be converted into a standard pattern.

The gross income multiplier, sometimes referred to as a "conversion factor," is the ratio of gross rent to value. For that reason, it is said to be a "*gross rent multiplier*." It is seldom used by fee appraisers except as a means for making preliminary value estimates or as a check against results obtained through other processes. In valuing income-producing properties, especially where a satisfactory pattern of similar properties previously sold can be established, it is perhaps the method most often relied upon by tax assessors, because of its simplicity in application. It converts income into a value estimate by a single operation - multiplication of gross income by a factor.

In applying this method, the appraiser or tax assessor assembles and carefully examines available sales and rental records to ascertain prices at which properties comparable or nearly comparable to the one under appraisal have been sold and what rentals they command. He/she then divides the typical sales price by the typical rent and secures his/her gross income multiplier. This factor, applied to the rent being received or reasonably expected from the property under consideration, produces his/her estimate of value. As previously stated, the method is particularly applicable where there is a relatively high degree of standardization of properties transferred in the market place and comparability with the one being appraised. There must be a sufficient number of sales of like properties from which to obtain the factor used. No gross income multiplier is sound if based upon only one or two property transactions. The method is often used erroneously, especially when a factor is applied to properties dissimilar to those, which produced the gross income multiplier.

An illustration of its use in appraising residential property is as follows:

Typical sales price for properties comparable with the one under appraisal	\$120,000
Typical monthly rental received from comparable properties	\$ 1,200
The gross income multiplier obtained by dividing 120,000 by 1,200 is.	\$ 100
Monthly rental being received or reasonably expected from the property	\$ 1,100
Application of predetermined factor results in a value estimate of \$1100 x 100, or	\$110,000

Gross income multipliers can also be obtained by the use of annual instead of monthly rents, as follows:

Typical sales price	\$ 120,000
Typical annual rental	\$ 14,400
Gross income multiplier obtained by dividing 120,000 by 14,400	8.33
Annual rental received or reasonably expected from property under appraisal.	\$ 13,200
Application of factor - \$13,200 x 8.33	\$110,000

Amenities cannot be segregated and evaluated in terms of dollars and cents; but if all properties used in the process are identical or practically the same with respect to amenities, accurate results are obtained.

It appears to be the practice among appraisers to apply the multiplier to monthly rent for single-family homes and duplexes and to apply it to gross annual rent for apartment houses and other income properties. In either event, correctly applied, the result will be the same, as demonstrated above.

The process herein outlined can be applied to properties of any type, provided they have been properly classified and a standard pattern established by sales of properties comparable to the subject property. Most income properties can be compared on a gross multiple basis.

Once an appraiser has begun using this technique, he/she will gradually develop schedules of gross income multipliers applicable to various classes of property in his/her county and not have to make a separate analysis each time he/she wants to use a gross multiple factor.

There are several variations of the procedure, including use of effective gross income multipliers; adjustments in income where certain services are furnished in apartment buildings that have been sold but are not supplied by the one under appraisal, and many others. A clear understanding of basic elements involved in the process enables the assessor to develop and use several variations of it.

A great deal of caution and skill must be exercised in using any form of income multiplier. It should be employed only where all conditions surrounding the appraisal are highly comparable and favorable to its use, the most important being the high degree of standardization of properties exchanged in the market place and comparability with the property appraised.

There is no single multiplier that can be used in all areas or for all types of properties. It should be re-emphasized that the multiplier for each class of property in each area must be carefully plucked from market transactions and be appropriate for the property under appraisal.

It is contended by some that an appraiser should be able to select and apply a multiplier within a range of 5 percent, up or down, from the median figure when dealing with a closely comparable group of properties. The assessor is generally able to operate on a wider margin with satisfactory results, especially when other value approaches are used in conjunction with this technique.

Both techniques used in converting property income into capital value -capitalization of income and use of income multipliers - have been explained. The former involves a process of division; the latter, one of multiplication. (Only gross rent is considered here, but the same factors can be applied to net income by using refinements previously referred to.)

Gross income multipliers may also be developed through use of capitalization rates, which is to say rates used in the capitalization of gross income technique. In this process, gross income multipliers are determined by or derived from gross capitalization rates. In other words, gross income multipliers are reciprocals of gross capitalization rates. To secure the gross income multiplier, you divide the gross capitalization rate into one (1). Let's assume a gross capitalization rate of 10%. To ascertain the gross income multiplier, divide one (1) by .10, as follows: $1 \div .10 = 10$ the resultant multiplier is 10.

By way of illustration, let's assume a property being considered produces a gross annual income of \$5,000; that a gross capitalization rate of 10% has been selected as the one best representing conditions surrounding it and most likely to reflect "actual cash value." A gross capitalization rate of 10% is the equivalent of a gross income multiplier of 10, as shown below:

$$\begin{aligned} \$5,000 \text{ capitalized @ } 10\% &= \\ \$5,000 \div .10, \text{ or } \$50,000 & \\ \$5,000 \times 10 &= \$50,000 \end{aligned}$$

A gross capitalization rate of 12% is the equivalent of a gross income multiplier of 8:

$$\begin{aligned} \$5,000 \div .12 &= \$41,665 \text{ (Even figure)} \\ \$5,000 \times 8 &= \$41,665 \end{aligned}$$

To carry the illustration further, a higher gross capitalization rate (reflecting more hazards of investment risk) of 20% is used. It is the equivalent of a gross income multiplier of 5, as follows:

$$\begin{aligned} \$5,000 \div .20 &= \$25,000 \\ \$5,000 \times 5 &= \$25,000 \end{aligned}$$

As the other extreme, let's assume the income risk is so safe and conditions so favorable, a gross capitalization rate of 5% would be proper. It is the equivalent of a gross income multiplier of 20:

$$\begin{aligned} \$5,000 \div .05 &= \$100,000 \\ \$5,000 \times 20 &= \$100,000 \end{aligned}$$

The annual gross rent multiplier can be converted into a monthly factor by the simple process of multiplying it by 12 (number of months in the year) so that, in the above illustrations, an annual multiplier of 10 becomes a monthly factor of 120; the annual multiple of 8 becomes a monthly factor of 100; 5 is converted to 60, and 20 to 240. A word of caution: Application of a monthly factor to annual gross income or vice versa would produce a disastrous result. If for any reason it is desired to apply a monthly multiplier to an annual gross income amount, the income figure must be divided by 12 prior to the multiplication process.

In reality, gross income multipliers are gross capitalization rates. Where a gross capitalization rate has been correctly selected, conversion to the proper gross income multiplier becomes a simple process.

Capitalization Rate - The basic concept of the income approach to value is that the income, the rate and the value of the property constitute an equation; income divided by rate equals value.

In the capitalization of income, as in all aspects of the appraisal process, the mass appraiser must record the attitude of the market, particularly since his objectives are estimation of "*actual cash value*" and equality of assessments. To do so, he/she needs to ascertain the nature of investors who comprise the market for various types of property, as well as the pulse of the economy, and then probe the activities of those buying and selling. Through this procedure he/she acquires an understanding of their thinking. He/she must reflect such market attitudes as can be deduced from a thorough examination and careful analyses of recent transactions. The emphasis should always be on market activities.

Selection of proper rates for converting income into capital value by means of any method heretofore described constitutes one of the "judgment" phases of the appraisal process, and should be treated

cautiously. It is one of the most important steps in the income approach. A variation of only 1% can mean a difference of many thousands of dollars in the capitalized value of the income. All invested money - savings accounts, bonds, stocks, and real estate - is supposed to yield a certain percentage of return in interest, dividends, or rentals. As a general rule, the amount of return expected by an investor varies with the risk involved - the greater the risk, the higher the return expected, and vice versa. This truism cannot be over-emphasized. As stated above, the rate of return anticipated from any form of investment is reflected by realities apparent in market transactions - what the acceptable or "going rate" is for prudent buyers and sellers of each property classification. These transactions usually indicate the best return available for each class of property. Because of their safety (least risk) certainty of periodic yield, and liquidity, the purchaser of government bonds is satisfied with a low rate of return in exchange for a feeling of security provided. Bonds and preferred stocks of triple-A corporations generally yield a return slightly higher than government securities. The rate on selective first mortgages is still higher because the risk is greater, and the rate on second mortgages is usually much higher than that obtainable on first mortgages. For example, when the "going rate" on prime first mortgages is 6%, second mortgages will likely yield an effective return of from 8 to 15%, depending upon the risk involved. The difference in rates is due to hazards of the investment risk in each instance. Generally speaking, the rate should be commensurate with the hazards of the investment risk.

The basic elements of a good investment have been noted; safety of principal; yield, and marketability, or liquidity. There is an absence of the latter element in a majority of real estate investments, which is a handicap to them.

In the real estate market, some properties produce a safe and fixed yield; primarily those under long term leases to chain stores, or other prime tenants, such as F. W. Woolworth Company. Needless to say, choice properties occupied by triple-A tenants on long-term leases are more easily marketed than others, and on a lower yield basis. However, for most properties there is a fluctuation in net income, requiring analyses and reconstruction of income and expense statements by appraisers in attempts to stabilize them for appraisal purposes.

In determining capitalization rates to be applied in converting real estate income into value, many appraisers use a process of constructing rates, a method of "building up" interest rates which market data reveal as applicable to comparable properties. The rate built up in this manner, referred to as a "summation rate," is composed of several different rates; one for safety, another for risks involved, one for non-liquidity and one for burden of management. To illustrate:

Safe, or non-risk rate, approximately	5 ½%
Risk rate	1 ½%
Non-liquidity rate	½%
Rate for burden of management	<u>½%</u>
Total rate	8%

While it is doubtful any mass appraiser will have occasion to use the technique above described, or other technical method of selecting capitalization rates, it is included as information on the valuation process in the event it should be needed.

The appraiser generally selects the interest rates to be used in the capitalization of income process from the market prevailing in his jurisdiction. Selection of an interest rate by comparison recognizes the reaction of those who are buying, selling, lending, borrowing, renting, or otherwise dealing in the market place. In order to secure an appropriate rate in each instance, it is necessary to compare properties on a qualitative basis. The quality of income is of vital importance in the process. A combination of careful analyses of market data and good judgment should produce the proper rate in nearly all cases.

Another phase of the valuation process concerning interest rates used in converting income into capital value arises from "percentage" leases which produce "excess rents" It is an area likely to puzzle the most experienced appraiser. Some leases provide for the payment of rent on the basis of a percentage of gross volume of business done by the lessee each year, with a minimum annual rent guaranteed. Let's assume a drug chain has leased a store space on a basis of 3% of its gross volume of business, with a minimum rent guarantee of \$500 per month, or \$6,000 per annum, the 3% to apply on the gross volume in excess of \$200,000, and that the volume for one year was roughly \$300,000. The rental paid would be \$9,000 instead of \$6,000, or a "surplus" rent of \$3,000. Unless there is conclusive evidence of sustained annual rentals of \$9,000, the excess rent would normally require a higher capitalization rate for the surplus. In other words, the going interest rate of the area would be used in capitalizing the minimum rent guaranteed and a higher rate for the surplus, the difference in rate depending upon the risks involved.

It was observed previously that, in discussing the income approach, two statements had been made which required some clarification. The first one, which referred to several varieties of the procedure for converting income into capital value, has been explained. The second statement, *"the fee appraiser is required to make forecasts, which the mass appraiser makes in a limited manner only," can be explained rather briefly.*

Any process of capitalizing income involves a degree of forecasting. Even when the present income of a property is capitalized by one of the direct methods - a simple mathematical process of dividing the future net income estimate by an appropriate interest rate - there is an assumption the income will be perpetual. This is referred to as "capitalization in perpetuity." The same is true when income multipliers are used. These two simple methods, "direct capitalization" and "income multipliers," differ from the more technical "residual" methods of capitalization, which recognize the fact that depreciable improvements have a somewhat definite useful life; also, in their application the use of compound interest is given weight. These "residual" techniques involve forecasting for a certain number of years.

To reiterate, the mass appraiser rarely has occasion to use one of the "residual" methods in his work. In appraising income properties, he relies mostly upon "income multipliers" or some form of "direct capitalization" method and, in a proper use of them, selects his interest rates from the market place. In following this practice he cannot go far afield. By any process of converting income into capital value, some degree of forecasting is required.

The Bracketing Process (Correlating Value Indications) - The final step in the valuation process involves a correlating or bracketing of results obtained through application of the three approaches to value. All approaches have both advantages and limitations but, properly employed, they buttress and equilibrate each other in such manner as to satisfy the legal requirement of "*fair and reasonable market value*" and provide equitable tax rolls. The techniques which have been described are not definite, or inflexible, and the result obtained from each approach should be weighed and balanced against the others throughout the entire procedure. Correlation means the process of correlating all data in such a manner as to reflect "*cause and effect*" relationships as they pertain to the property under appraisal. Like a blazed trail through the forest, co-relation runs through the entire appraisal program and provides a benchmark for each major step of the appraisal process.

A precept to keep in mind at all times is that there are top and bottom values in each of the approaches; also top and bottom values in the final correlation of all three approaches. It has been noted the cost approach generally indicates the ceiling of value and that one of the other two, sometimes both, will indicate the value floor. The appraiser cannot in good conscience go above the ceiling or below the floor of value in his final estimate. Between the two extremes of top and bottom values the "*fair and reasonable market value*" should become apparent.

A previous word of caution bears repeating. The indications of value from each of the three approaches should never be averaged as the final value estimate. The appraiser should give most weight to the value indication of that approach which is more applicable to the property under consideration.

CONCLUSION

The appraiser cannot reach final estimates of value until after he/she has assembled a multitude of facts and figures, screened them carefully, made numerous comparisons of like properties, used all appraisal techniques in the process, and correlated value indications of each approach. To make a value estimate and call it final after applying only one approach is no more reasonable than trying to make a tripod stand on one leg.

Exhibit 4-1

**ALABAMA DEPARTMENT OF REVENUE
PROPERTY TAX DIVISION**

SALES RATIO RECORD CARD

PARCEL#: _____

DEED BOOK/PAGE: _____ / _____ SALE DATE: _____

APPRAISED VALUES: _____ GRANTOR: _____

APPRAISED BY: _____ GRANTEE: _____

APPRAISAL DATE: _____ VERIFIED: _____

SALE PRICE: _____ DEED TAX: _____ DEED CONSID: _____

RATIO: _____ ACRES: _____ CU VALUE: _____

PRIOR YEAR VALUE: _____ PROPERTY ADDRESS: _____

USE CODE: _____ STORY HT. _____ BASEAREA: _____

JURISDICTION CODE: _____ TAA: _____

PC/GAR: _____

BLDG. CLASS: _____ BASEMENT: _____ PERCENT GOOD: _____

YEAR BUILT: _____

LIVING AREA: _____

NBHD: _____ VERIFYING AGENT: _____

LEGAL: _____

COMMENTS: _____

DEPRECIATION

Estimating the replacement cost of a building as a new structure, particularly with respect to the Cost Approach, is only the initial part of a two-part process of estimating its current market value. Part two, which is undoubtedly the more challenging part, is making an estimate of the improvement's value loss from the time of completion new to the present or appraisal date.

One of the unchanging laws of economics is that buildings lose value and desirability because they wear out, construction innovations occur, styles change, demand fluctuates, and populations shift. Any decrease or loss in value or desirability due to such causes is called depreciation and must be taken into consideration in the valuation of property. Estimating depreciation constitutes one of the most difficult tasks in the entire valuation process, as it represents a phase of the appraisal or assessment procedure requiring sound judgment based on training and experience. **IT IS PERHAPS THE MOST IMPORTANT SINGLE FACTOR OF A REASONABLE VALUE ESTIMATE. APPRAISAL AND ASSESSMENT ROLL ACCURACY ARE GREATLY AFFECTED BY THE APPRAISER'S PROFICIENCY IN THE DETERMINATION AND APPLICATION OF DEPRECIATION.**

Contrary to the popular concept of the subject, depreciation is not merely a decrease in property value or desirability due to physical deterioration. Literally, it is defined as a loss in value or desirability from any cause. Under this definition, obsolescence, or loss in value or desirability resulting from unforeseen changes in type or style of construction or to unforeseen shifts in the use of property, is included. However, there is a sufficient distinction between **DEPRECIATION** and **OBSOLESCENCE** to justify the use of separate terms. Depreciation is strictly a physical or engineering concept, whereas obsolescence is an economic concept. The effects upon the useful or economic life of buildings brought about by depreciation and obsolescence represents a sufficiently important practical difference to justify a clear-cut differentiation in the use of the two terms. The reason for making a clear distinction between depreciation and obsolescence is that a building may become obsolete and, therefore, of nominal economic value long before it is worn out or physically deteriorated. In fact, comparatively few buildings have been demolished because of structural unsoundness. Many buildings are torn down but relatively few fall down.

As more and more data concerning life expectancies of various types of structures become available for study and analysis, it becomes increasingly apparent that the problem of estimating physical depreciation pales in comparison to the problem of determining the existence of and quantifying obsolescence.

Since depreciation is "a loss in value or desirability from any cause", it represents the difference between the new cost of a structure and its true or "fair and reasonable market value" at a given time.

The fundamental causes of and the basic techniques used to measure depreciation and obsolescence are the same for both fee appraisals and those made for assessment purposes. With that in mind, it may be well to discuss briefly the nature of the two concepts of loss in value.

Physical depreciation is the inevitable continuous physical deterioration of a building through the combined effects of wear and tear from use and exposure to the elements. In the category of contributing factors, there should also be included such contingent causes as accidents, negligence, natural disasters, structural defects, termite infestation, dry rot, and lack of a reasonable level of preventive or preservation maintenance. (The observation has been made that when you can *see* depreciation it is apt to be "*deferred maintenance*.") This relatively slow but certain process of physical deterioration, which, in the course of time, finally renders a building virtually useless, begins the very moment it is completed. It includes decreases in the value of structural equipment, such as plumbing, heating, air conditioning, and other electrical installations.

While it is impossible to prevent such deterioration, there is a wide range of possibilities within which its effects may be abated. A building which is not properly maintained may, in a comparatively short time, become so run down as to be not only undesirable but incapable of generating any demand for its use. On the other hand, that same building may be kept at a high level of efficiency and desirability by prudent annual maintenance and repairs. As such, it may be retained in near new condition for quite a long time; and the demand for its use will likely be sustained. It is well known that duplicate properties of identical construction and age may be in very different physical condition due to the difference in the care and maintenance each has received.

This brings to mind a somewhat related subject. It is incorrect practice to automatically attribute a longer physical life to a masonry structure than one of frame construction, without considering the quality of design and construction of the two buildings. While, on average, masonry buildings have a greater survival rate (longer life) than wooden structures, innumerable frame buildings erected in colonial and ante-bellum times are still in good condition; many in splendid shape. A well-constructed residence or other structure, frame or brick, has almost an indefinite physical life. It is the relatively short-lived components of roofing, heating plant, plumbing, wiring, and other installations that have a limited physical life and must be replaced from time to time. A frame building constructed of good materials and having equipment of a better grade, may actually deteriorate less rapidly than a brick structure that is poorly designed and/or constructed and equipped. It is true, however, that maintenance and repair costs tend to be greater for frame buildings than for brick or other masonry construction, provided both are of the same quality class and type.

In assessment practice, the matter of how the appraiser views maintenance raises an arguable question of tax policy. Some argue that to assess a higher tax on well maintained property than that assessed on poorly maintained property constitutes a penalty for keeping the property up and is, therefore, a disincentive for property owners to maintain their improvements. But, Alabama law requires assessment valuations to be at market value and that there be equity (fairness) among appraisals. The property tax is by definition assessed in proportion to the value of the property. Obviously, the well-maintained property is more valuable than the one that has been neglected, *other things being equal*; and the equitable treatment standard dictates that the appraiser recognizes this. It is, therefore, equitable practice to differentiate and ascribe a higher value to that structure which has been better maintained.

OBSOLESCENCE

As previously noted, depreciation may be dissected into two general categories: physical deterioration and obsolescence. *Obsolescence is further separated into functional obsolescence (which is internal to the property) and economic obsolescence (which derives from causes external to the property).*

Functional obsolescence arises from characteristics within the structure. It represents a loss in value from any of several causes, including: outdated architectural style or faulty planning; antique, out-of-date, or eccentric design; over-capacity or inadequacy; lack of modern convenience or safety; outmoded equipment (inefficiency); lack of aesthetics; and other reasons.

One bathroom in a four-bedroom house denotes a functional fault when the standard as expressed as market demand is for two or more baths in the home. In fact, most home purchasers now require at least two bathrooms in a three-bedroom house. Poor room arrangement, inadequate closet space or garage facilities, sparse electrical outlets, wide hallways, and the lack of central heat and air are other forms of functional defects. A house with its main entrance through the kitchen offers an example of eccentric design and has limited marketability. Another source of functional obsolescence, which is particularly applicable to better quality residential structures, arises from the fact that, as a rule, those financially able to have what they want are reluctant to pay for the selection of others. The average person who can afford a home in the higher cost brackets prefers to build according to individual desires rather than buy a house erected to fit the needs or desires of someone else. Accordingly, it is not so uncommon for a high-cost custom-built home that is placed on the market for sale to bring a disappointing price to the owner for which it was built or, for that matter, to a speculating developer. While this lower than expected price represents a lesser degree of functional obsolescence than is found in the freakish, eccentric luxury type house, it is often reality and when encountered must be given consideration.

In industrial and commercial property categories, many illustrations of functional obsolescence could be cited, such as a high-rise office or apartment building with only one elevator, antiquated cage-type elevators, or buildings without air conditioning.

An excellent illustration of functional obsolescence (inadequacy) of an industrial plant is provided by the Coca Cola manufacturing company, Atlanta, Georgia. In 1898, a large rococo styled, triangular-shaped building of brick construction with three stories and basement, was erected five blocks from Atlanta's famous "five points," to house the offices and manufacturing plant of that company. In opening it to the public, Asa G. Candler, then owner and president said, "It is sufficient for all our needs for all time to come." But, less than ten years later, the company had outgrown it and moved into a much larger plant farther out.

(As a matter of interest, the contract price on the building was \$11,000. In April of 1909, following its abandonment by the Coca Cola Company, the property was sold for a consideration of \$50,000. The purchaser demolished all but the ground floor.)

Economic obsolescence arises from sources external to the building, other than changes in the value of money. Causes are numerous and include: oversupply of properties of comparable utility and

desirability; legislative enactments limiting property rights; aging of residential or commercial districts; changes in zoning and land use; locational influences; loss of neighborhood integrity - advent of inharmonious influences (nuisances, etc.); under-improvement of surrounding properties; changes in consumer tastes or preferences; changes in community development trends (e.g., shifts in the areas of the city or county in which people desire to reside, shop, or to be entertained, etc.); and other causes.

Many central business districts are declining in value because of the impact of shopping centers and failure to provide adequate downtown parking facilities. (As previously noted, a number of cities have recently revitalized their core areas and others are in the process; either with the aid of federal funds or through private sources of capital. In many areas of the country, the present and increasing trend is a return to the downtown areas.)

Illustrations of economic obsolescence are found in the oil industry, in which there have been periodic changes in methods of retail distribution. At one time, a gasoline service station's site requirements were 75 to 100 feet of street frontage (some 50 to 60 feet), with inside lots often used. Later, with the change to multi-pump operations, large sites (a minimum of 125-150 feet, or more, preferred) and corner lots became necessities. Because of this change in business practice/technology (and because vehicular traffic became too heavy at some street intersections for ingress and egress) many existing stations became obsolete. Installation of corner traffic lights, with left-turns prohibited, has been a source of loss in value to some stations. Divider strips on new highways have contributed to declining volume of business, with resultant loss in value, as have highway relocations.

Anything that adversely affects the character of a building or its degree of utilization will likely result in economic loss. Other examples are oversupply of particular types of property, zoning regulations that prevent maximum utility, or absence of adequate parking facilities. Either an increase or decrease in land values in an area may tend to lessen the value of buildings. For example, when land in a residential neighborhood becomes sufficiently desirable for commercial use, land values generally increase, and the values of the residential improvements decrease as those homes represent under-improvements to sites. This phenomenon is usually followed by demolition of the buildings to allow a more profitable use of the land. The assessor is often challenged to adequately allow for such changes, especially during the time of transition to the higher economic use.

The aging of residential districts and the movement of residents to newer ones that offer modern, attractive homes have been known to cause formerly "high-grade" sections to decline in value. Such neighborhoods become districts full of tenants in place of homeowners, with a gradual transition of fine homes into lodging and boarding houses. The movement of apartment houses or businesses into a residential district will tend to cause the homes in that district to sustain a substantial economic loss because of a general decline in desirability as single-family residences. However, there are numerous instances of fine old residences retaining value because of adaptability of business usage. The same applies to modest homes.

In some cases, the economic or useful life may continue as long as the physical life of the structure; but as a general rule, this is not the case. This is particularly true in those cities which are growing rapidly and where older buildings become out of date much sooner than in cities which are growing at a lesser rate or, perhaps, not growing at all. Reports of the U.S. Census Bureau, stratified by census tracts within the community, provide useful information for the appraiser, indicating, at a minimum, general trends for particular areas of the jurisdiction. The economic or useful life of each of the various types of buildings is most often inversely related to the rate of growth of the area in which they are located. In an area, which is not growing very fast, or is in a static situation, the economic or useful lives of buildings often equal their physical lives; while the same structure in a rapidly growing community may become out of date long before its physical life is exhausted. For that reason, great care should be exercised in the preparation and use of age depreciation tables in the appraisal of property for tax purposes. The informed appraiser is generally familiar with changes occurring in his county.

Any consideration of the subject of depreciation, however brief, would be incomplete without a related observation. Over the years, there has been a steady increase in building costs. Though costs have, from time to time, alternatively increased and then decreased, as reflected by peaks and bottoms in published historical construction cost trends, the long-term trend slopes upward. Building costs, like the general cost of living, have over time steadily increased so that, as a general rule, where there have been no violent economic changes, construction cost increases have more than off-set depreciation. In other words, after a reasonable lapse of years, almost any building will sell for more than its original cost, even though it has undoubtedly experienced some depreciation. For this reason, once the county's locational index for construction cost has been determined and depreciation applied to all improvements as of the date of assessment, it should not be necessary for appraisers to make periodic recalculations of depreciation, unless it becomes necessary or advisable to reappraise the entire jurisdiction or discrete areas within the jurisdiction. The following table and related graph illustrates the year-to-year construction cost trends for masonry structures and for wood frame structures built in the Central United States between 1940 and 1995.

In any evaluation of property life, depreciation is separated into two parts - [1] *cumulative or accrued depreciation (which represents that portion of the asset's life thus far expended and is indicated by the estimate of the asset's effective age)* and [2] *remaining economic life, which is an estimate of the remaining term for which future benefits are expected. The measure of cumulative or accrued depreciation in a property is its relative desirability as compared with one that is new and hypothetically perfect.*

With respect to "*accrued*" and "*remainder*" depreciation, there is an important distinction between the function of the fee appraiser and that of the tax appraiser that has already been noted. Since the value of a property is primarily based upon "*future rights and benefits arising out of ownership,*" the fee appraiser must, by the very nature of his work, give careful consideration and weight to all factors that may influence the property's remaining life. His job is to forecast this life remainder with the highest degree of accuracy possible, predicated upon probabilities. On the other hand, the tax appraiser, theoretically at least, has the responsibility of evaluating the property from year to year, so that his value estimate is based largely upon its present condition. It is an ever-continuing process.

Cost Trends charts go on this page

If notable changes occur in particular geographical areas or within specific property types from one year to another, tax appraisers, of necessity, must take notice and make the appropriate adjustments to keep appraisals in line with the market. The tax appraiser must be sensitive to developing trends within the jurisdiction (such as the closing or downsizing of a local major employer), but he/she cannot be expected to anticipate effects and make adjustments to appraisals absent of, or in advance of, actual evidence from the market.

Appraisals ought to consistently reflect recent trends in the market as indicated by actual hard data, but ought not attempt to be predictive of the market. As events occur and the magnitude of the occurrences is made evident by resulting market transactions, appraisals should be adjusted accordingly. Therefore, the establishment and maintenance of a market database or databases (*consisting of recent sales as well as income and expense data*) that can be stratified by property type, age, location, etc., is an absolute necessity. Otherwise, it will be impossible to stay abreast of market developments, with precious little chance of truly satisfying the legal mandate of appraisals at market value.

No discussion of the technique involved in measuring building depreciation should be entered into without an understanding of at least a few fundamental principles worthy of repetition, namely:

1. There is an important distinction between the "structural" and the "useful" life of a building. The former is a physical or engineering concept; the latter is purely economic in concept.
2. Physical deterioration determines the maximum possible life of a building.
3. Obsolescence means a decrease in the "value for use" of a structure and is measured by a comparison of its desirability or utility with that of a new, modern building designed for a similar function. It is often a structure's obsolescence, and not the physical deterioration, which determines the end of its useful life.
4. Life depreciation is separated into two parts; cumulative or accrued, and remainder.
5. Life expectancies of various types of buildings are largely determined by the rate of growth of the area in which they are located.

When a community sustains rapid growth and land values change due to the transition of land to higher economic uses, building lives, particularly with respect to commercial structures, tend to decrease (i.e., rates of depreciation tend to increase). In such a case, life expectancies become shorter and depreciation increases as growth and change occurs. At the other extreme, long-term stagnation in a community's economy tends to render property within that community less valuable due to a depressed or limited local market (*low demand*). In this case, it is the *lack* of growth or local economic vitality that tends to shorten useful lives and increase the rate of depreciation.

6. Historically, the rising cost of construction, has more than off-set depreciation, with the exception of short periods that followed some major, but temporary, economic downturn.

In discussing the subject of depreciation, it might be interesting to note the American standard of differentiation between the archaic and the modern. Shortly after the demolition of one of New York's famous Fifth Avenue "brown-stone fronts" had begun, a cab driver called it to the attention of a gentleman from London in passing. The passenger insisted on getting out of the taxi for an inspection of the structure to be sure of the phenomenon of the destruction of a building that, according to his English standard was an edifice that might be considered slightly "*adolescent*" but certainly not "*obsolescent*."

In estimating depreciation, an inexperienced appraiser might be caught by the trap of a strict reliance on a table of Average Depreciation Rates and, with the use of such a table, attempt to calculate the accrued or cumulative depreciation of the subject's structure. Such a simplistic, naive approach will undoubtedly lead to erroneous value estimates and is contrary to basic appraisal principle. Such tables, if properly developed and stratified by structure type and quality, can be very useful in estimating the typical or usual physical condition of buildings. But if exceptional physical deterioration, functional obsolescence, or external obsolescence is present, such tables fail to provide the appraiser with the whole answer. A noted mathematician observed that, "*for every complex problem there is a simple solution ... that is incorrect.*" Depreciation tables are excellent when used as guides, but dangerous when followed without exception. There is an old adage in appraisal: the use of tables and formulas is proper when they are your servants, but dangerous if they become your master.

The Observed Method - On site inspection is a practical necessity when estimating the amount of depreciation that has been sustained by a structure or for estimating the remaining useful or economic life of the structure. This involves personal inspection and investigation on the part of the appraiser and requires training, wide experience, sound judgment, and the ability to interpret all relevant data fairly accurately. As already stated, well-constructed buildings, property maintained, will last almost indefinitely. The actual sustained depreciation on the improvement is measured by the difference between what it would cost to replace it under current market conditions and what it adds, in its present condition, to the value of the land.

The modernity of a structure is rated by "*comparative age*" (*a.k.a. effective age*) that may differ greatly from the actual age. Because of excellent original architectural design, good maintenance, and timely reconditioning, a very old dwelling may have all the characteristics of one built recently, and hence will merit a low comparative age rating. Conversely, one built much later may be considered as of a great comparative age because of poor exterior or interior design, neglected maintenance, and lack of modern equipment. Comparative age means, in short, "*as good as*" in terms of present acceptability for the use to which it is or should be devoted.

In every facet of the appraisal process, the zone of error should be narrowed, where possible. In using the "*observed method*" for measuring depreciation, this zone of error can be narrowed considerably by the use of detailed estimates of costs to cure, that is to say expenditures required to bring the subject structure in all of its elements to a condition equivalent to new. Where physical deterioration and curable functional defects are concerned, the process will result in a reasonably high degree of accuracy but, obviously, a loss in value from economic causes cannot be measured in that manner. But, practically speaking, during the reappraisal process when the values of all properties within the jurisdiction are under consideration, the mass appraiser cannot usually afford

the time necessary to develop such detailed estimates on individual properties. Still, incurable functional and/or economic deficiencies can only be measured by a comparison of sales of similar properties or, in the case of investment or income type properties, a comparison of rentals and estimates of increased costs of operation of the building due to the defect. And, though our work is *mass appraisal*, we are not exempted from observing proper appraisal practice, including the proper application of depreciation. However, there are practical, computer-assisted methods by which market data can be acquired and analyzed to assist the mass appraiser with the problem of depreciation. One such method is “*neighborhood analysis*” where sales data for delineated areas provides an answer. This method is illustrated and explained later in this section.

After the appraiser has carefully estimated the replacement cost new of a structure and the market value of the land which it occupies, the all-important question is then whether it is worth what it cost. In the appraisal process, the difference between its replacement cost new and its actual value offers a fairly accurate estimation of accrued or effective depreciation.

The Unit Cost Method - This method involves separate valuation and depreciation of each component part or structural element of a building in accordance with its relative value to the building as a whole and independently of all other parts or elements. The foundation, structural framing, exterior walls, floors, roof structure and covering, interior finish, lighting, plumbing, heating, and other parts are all valued and depreciated separately. In reality, it is a refinement of the observed method that enables the appraiser to narrow the zone of error to the “*Nth*” degree and estimate “*curable*” depreciation with higher accuracy. It is sometimes referred to as the “*cost to cure*” method. However, it entails such a prodigious amount of work it is seldom used except in those instances requiring that degree of accuracy expected in estimating fire damage, loss of a portion of a building through condemnation process or similar causes. This method is advocated in some quarters for risk purpose appraisals, but is not believed suited to wholesale appraisals for tax purposes. (Such work may be useful, the data may be available, and the time necessary may be justified on the relatively few such properties under appeal to local boards of equalization or circuit court.)

Sinking Fund Method - This method assumes that depreciation is an annuity which, invested at a certain rate of interest, will equal the amount of the replacement value of any building at the end of its useful or economic life. In other words, by this method a stipulated amount is set aside each year and allowed to accumulate at compound interest. At the end of the building's useful or economic life, the sum will be sufficient to provide for a similar new structure to replace the old one. It is used mostly by accountants. In conventional appraising, it is seldom used in estimating accumulated depreciation. However, if developing capitalization rates for income approach appraisals using the “*built-up*” method, consideration of the “*recapture*” (depreciation) component as an annuity yield (with compound interest) gives a more realistic overall rate, and ultimately a better value estimate, than if estimating recapture as a simple, unrealistic straight-line function.

Depreciation Tables or Schedules - By the very mass production nature of assessment work, tax appraisers are virtually compelled to use some form of standardized tables or formulas as a basis for depreciation allowances on buildings. He/she has thousands and, in some large assessment jurisdictions, hundreds of thousands of parcels of real estate, as well as thousands of personal

property items, to be valued or revalued as of a certain lien date. Accordingly, the appraiser lacks the time, personnel, or facilities to estimate the amount of depreciation allowable on each building from minute personal examination or observation. He/she has to have some general depreciation guide, at least for the bulk of his work, and usually resorts to life expectancy tables or formulas in making cumulative or accrued depreciation estimates.

There may be some appraisers who sincerely believe that, having systematically applied figures from such depreciation tables, the process of estimating depreciation is over; that the rest is merely a matter of computations. While this might be desirable, especially from the appraiser's viewpoint, it is not possible to formulate depreciation tables, formulas, or schedules which will fit those specific properties where unusual conditions are found to exist. In such instances, there is a definite, fixed limitation to the use of tables, formulas, or schedules that must be recognized. Depreciation schedules represent average building life expectancies only and cannot be applied to properties that have had unusually good care and maintenance; have been sorely neglected and permitted to run down; or have been remodeled and completely modernized. There are numerous instances where remodeling has been so extensive as to alter the entire physical and economic characteristics of the properties. Such exceptions to the average must be resolved on an individual care basis from careful personal observation and, as alluded to earlier, analysis of market data.

However, for the bulk of typical, newer properties, life expectancy tables or formulas permit automatic depreciation estimates; in many, many instances provide reasonably accurate estimates of depreciation; and lend certain impartiality, or more accurately the perception of impartiality, in treatment of taxpayers. (In fact, when particular properties in fact suffer from an atypical amount of depreciation, rigid application of such a schedule is unfair.) Again, such tables are useful as guides but are generally less accurate for older improvements. With evidence contrary to the scheduled percentage, appraisers must deviate accordingly in order to make market value appraisals. And sound judgment is required in their proper application.

Residual Building Values - Most appraisers have adopted a fairly well defined policy of retaining some arbitrary percentage of the replacement cost of a structure on the assessment roll as long as the building remains in use. In fact, many appraisers maintain a practice of retaining a residual value percentage as long as the building is in existence. In either event, this is usually 10, 20, or 30 percent of estimated replacement cost, 20 being the figure most generally in use, according to best data available.

In some instances, the residual value percentage used has been referred to as the "*salvage value*" of the building (usually 10 or 20 percent). Such a figure is presumed to represent a percentage of estimated cost new reflected by the salvage value of materials after the structure has served its useful or economic life. However, due to increased wage scales for common labor in recent years, the cost of demolishing a building frequently equals or exceeds the amount realized from the sale of scrap materials. Costs involved in demolishing certain types of structures far exceed the value of salvageable materials.

There is a certain amount of sound reasoning in the procedure of retaining a percentage of a building's replacement cost new on the assessment roll as long as it is in use, or even in existence. Buildings have some value as long as they are utilized. Even when not being used, old structures

usually require as much servicing by governmental agencies as those which are in use; frequently more in the way of sanitation, fire, and police protection. Then, too, a dilapidated structure depreciates the value of neighboring properties, so that an annual tax burden on it serves to compensate the county, city, and school board for lower taxes on surrounding properties and for servicing costs, while encouraging the building owner to demolish it. But, residual assessment valuations must not be out of line with "*fair and reasonable market value*" without conflicting with the property tax laws of Alabama.

Accordingly, any percentage of estimated new building cost selected for use in determining residual assessed valuations should be substantially supported by factual data. This requires a study and analysis of many factors, primarily market transactions involving the oldest structures in the area. Any reliable, supportable indication as to what this residual percentage should be will result only from market studies and analyses.

Depreciating New Structures - Some assessors contend that new buildings should be given a depreciation allowance upon completion, as much as 10 percent. No justification can be found for this practice. All other factors being equal, a new structure is preferred over an identical existing one at almost any age and, therefore, has greater value. Equalization can best be served by recognition of this fact.

Percent Condition - When the amount of estimated depreciation is subtracted from the present replacement cost, the resultant estimate of the residual value of a building is called "*percent condition*." For example, a building that is estimated to be 30 percent depreciated as of a given time is said to be in 70 percent condition. Depreciation and percent condition are, therefore, complements of each other. This is the significance of the term "*percent condition*."

The word "*condition*" is frequently used in another sense in referring to the state of repair of a building or other improvements. The structure is said to be in splendid or excellent condition when it has been maintained in a high state of repair. It is spoken of as being in poor condition when maintenance has been neglected and it is in need of repair. In order to avoid confusion, the term "*state of repair*" might be used to avoid any confusion in meaning.

Recommendations - From the foregoing observations, it becomes obvious that any depreciation technique adopted or formulated should be a combination of both the "*schedule*" AND "*observed depreciation*" systems AND tempered by market data analysis. For the sake of quality and uniformity, schedules are recommended as guides for mass appraisers when physically reviewing improvements and are useful as stepping off points when observed and condition indicates a typical condition.

It would be great if depreciation tables could be developed locally based upon analysis of market transactions for existing improved properties of various types, ages and qualities. Though highly desirable, this is practically impossible since economic lives and rates of depreciation vary according to improvement type and quality. And it is unlikely, with the possible exception of the relatively few metropolitan counties of Alabama, that there would be sales of all the various categories (types, ages, and quality of construction) in sufficient numbers for developing such a differentiated schedule.

Related Terminology and Commentary

The following terms relate to particular aspects of this essential, if illusive, element of property appraisal.

Depreciation - The loss in value (and utility) from any cause and occurs in three general forms: (1) *physical deterioration* (2) *functional obsolescence* (3) *economic (i.e., external) obsolescence*.

Accrued Depreciation - Also known as diminished utility, it is the difference in a structure's cost new and its market value as of a certain date. It is the sum total of all physical deterioration, and functional and economic obsolescence. To be accurately quantified, it must be derived through: (1) *observation during physical inspection* (2) *through analysis of comparable sales of varying ages or capitalization of lost income*.

Physical Life - The length of time that a tangible structure may be expected to last. In most instances, a building's physical life exceeds its economic life as changes which occur in land use, zoning laws, lifestyles, business needs, technology, etc., dictate a higher, better use for the property; the old adage "*more buildings are torn down than fall down*" contemplates this phenomenon.

Total Economic Life - The estimated time span during which a particular type of structure is expected to make a positive contribution to the total property value; era of profitability. Particularly with respect to commercial properties, an indication that a structure has reached the end of its economic life is when it is obvious that the property's income equals its ground rent. At that point, the market for (*potential users of*) the property is unwilling to compensate the owner for use of the improvement and, therefore, the improvement is of nominal value.

Useful Life - Similar to total economic life, it is the length of time that an improvement retains its utility value. For some improvement types, primarily industrials, a building's useful life may extend beyond its economic life. In other words, though the improvement may have little value to potential buyers in the market for such real property, it remains valuable to the owner/user and thus has value strictly attributable to its utility or usefulness. This situation is described by the term "*value in use*". In such a case, appraisers are guided by the property's use value rather than the normal "*value in exchange*" or market value.

Actual Age - Length of time from structure's completion to the present or as of the appraisal date if different from the present date.

Effective Age - The age of an improvement based on its condition and utility. It may be greater than the structure's actual age, if the structure has been poorly maintained, if it contains elements of functional obsolescence, and/or if it is experiencing the effects of external obsolescence; less than actual age if it has been maintained at a better-than-average condition or exceptionally well located. It is the difference between a structure's total economic life and its remaining economic life.

Remaining Economic Life - The difference found by subtracting effective age (*which represents depreciation from all causes*) from an improvement's total economic life; the remaining length of time, from the appraisal date forward, during which the structure is expected to continue to add to the value of the land.

Physical Deterioration - A function of time or age, it is structural wear and tear or weaknesses occurring over time or due to usage. It may be [1] *curable* (i.e., economically feasible to correct; the economic benefit of correction outweighs the “cost to cure”) [2] *incurable* (i.e., cost of correcting exceeds benefit).

(1) **Curable Physical Deterioration** - Also known as deferred maintenance, this type of physical depreciation is a loss in value due to usage or exposure to the elements (*wear and tear*). Such loss is referred to as “*curable*” because the economic benefit added to the structure’s value by the correction or repair exceeds the cost. Deferred maintenance is particularly applicable to a building’s short-lived components, such as elements of the structure’s heating/cooling system (e.g., *compressor*), plumbing system (e.g., *water heater, bath fixtures*), electrical system (e.g., *light fixtures, built-in appliances*), flooring and wall coverings. Most often, repair or replacement of these building elements will add more to the property value than the cost of such repairs or replacements.

(2) **Incurable Physical Deterioration** - In contrast to curable physical deterioration, *incurable* physical deterioration refers to the decline of longer-lived building components where the cost to cure the detriment exceeds any resulting increase in property value. The sagging of a building’s skeleton (framing), a common characteristic of many older wood frame structures, normally requires considerable renovation, and cost, to repair. Unless the structure is located in a highly desirable area, the cost to cure the problem would most likely exceed any added value resulting from the restoration. As given in Chapter 8 of IAAO’s text Property Appraisal and Assessment Administration, classification of depreciation as curable or incurable varies among properties and largely depends on the age and desirability of location of the building.

Functional Obsolescence - The loss in value due to a decline in a structure’s useful capacity or in satisfying the consumers demands. As time passes, things such as consumer tastes and preferences for style and design tend to change. The conventional “*Harvest Gold*” country-styled kitchens (*complete with stylized vinyl floors*) commonly found in average to above average homes of the 1970's and 1980's have given way to kitchens with a variety of modern motifs that feature innovative colors and styles of ceramic tile, split brick floors, pickled cabinets, technologically advanced appliances, and so forth.

The typical 1980's homes were often built with, perhaps, two (2) bathrooms (sometimes with more). But those are likely more basic in size, design and function when compared with bathrooms found in the same strata of homes built today. The typical bathroom today is larger, often with greater numbers of fixtures and often with separate accommodations (i.e, separate vanities, toilets, and tub and shower) within the same room. Today, it is not uncommon to find newly constructed “C” grade houses with all bathrooms equipped with garden-type whirlpool tubs and separate showers. The preference for these features translates into decreased demand and lower value for existing homes that, though well maintained, do not have these modern kitchen and bath features. They may, therefore, suffer from exceptional functional obsolescence, but this can only be discovered and quantified through analysis of sales of such homes compared with market data on new homes. Functional obsolescence, like physical deterioration, may be curable or incurable. It would most likely be of positive economic benefit, or at a minimum, the cost would probably be totally recoverable (*and the problem “curable”*), to retrofit an older home with showers in the bathrooms where only the original basic bathtubs are present.

However, the cost of redesign and renovation to correct the home's inappropriate or outdated and undesirable room arrangement may be cost prohibitive when compared to the return the owner can reasonably expect for having the work done. If so, this functional obsolescence problem would be categorized as "*incurable*" and, bearing the market value standard in mind, the appraiser would not expect the detriment to be corrected. More importantly, the appraiser is unable to accurately quantify this portion of the property's total depreciation using an estimate of the cost to cure, since the market will compensate the owner for only a portion of the total cost to cure the problem.

Other, more sophisticated work is required by the appraiser to segregate and quantify this depreciation component from the other forms that may exist. Theoretically, comparing sales of properties exhibiting such serious detriments ("*study group*") with sales of properties which are highly comparable (*of similar quality, age, land value, and locational desirability*) but which have had the same functional problem corrected prior to sale ("*control group*") will yield reasonable estimates of the functional obsolescence portion of total depreciation. But first, land values, physical depreciation, and any economic obsolescence must be subtracted from the sales prices. This is possible only if the appraiser inspects the sold properties to estimate physical deterioration; obtains both "*control group*" sales and "*study group*" sales from the same geographic area (*thus both groups are equally affected by any existing external influences*); and if all sites are relatively homogeneous and land values can be reasonably estimated independently (*ideally, recent vacant lot sales have occurred*). And even then, the appraiser still may not be able to isolate and accurately account separately for both curable and incurable functional obsolescence.

Capitalization of lost net income due to an improvement's inadequate/super adequate design can also yield an answer to the appraiser's questions of presence and quantitative effect of functional obsolescence. But, again, sufficient income and expense data is required and, absent detailed individual property analysis, isolation of the curable and incurable components is unlikely.

It is recognized that mass appraisers are hard pressed to afford the time, and it is often difficult to obtain sufficient sales and/or income data, necessary to precisely isolate, in detail, the various forms of depreciation that may affect the population of properties in his/her tax jurisdiction. But, as discussed and illustrated later under Comparative Sales, it is practicable to allow for very real forms of depreciation which may exist in addition to physical deterioration, as evidenced in the market. This additional depreciation, indicated by sales of existing properties, may include elements of functional obsolescence, economic obsolescence, or both, depending on design, age, location, and prevailing economic conditions. Market factors can be derived from sales comparisons and used by mass appraisers to accurately account for and apply total depreciation with the same result on tax appraisals as that desired by fee appraisers engaged in estimating the market value of selected properties within the jurisdiction. The two groups share the common goal of appraising property at its actual market value.

External, Economic Obsolescence - This form of depreciation derives from any of several forces outside the property itself. It occurs not because of some inherent property characteristic but, rather, it is a diminishment in utility, and value, caused by something found in the property's surrounding environment. Since the owner's direct control is limited to the property itself (*i.e., he/she cannot directly control the external environment*), external obsolescence is always considered an incurable detriment. A few examples should serve to illustrate.

Residential - Zoning changes allowing the encroachment of commercial development of the lands adjoining, or in proximity to, a residential subdivision may result in a decrease in the demand for some or all of the properties within the residential area. The success of residential and commercial developments tends to be, in no small measure, co-dependent. Access to each by the other is important. However, there is some potential for a problem, particularly with respect to those lots that may now adjoin a new bustling shopping center development. Such an external force can be an “*inharmonious influence*” on the residential use value of the adjoining lots.

Commercial - The advent of a new office complex may, at least for a time, decrease the competitive advantage held by owners of existing office space. If potential business tenants prefer the newer (*and, thus, perceived as perhaps more prestigious*) space to existing buildings, demand for the existing space may be diminished such that owners of the older buildings are forced to offer concessions to potential new tenants or to current tenants in order to obtain lease renewals. Unless there is sufficient pent-up demand for absorbing the new additional office space, a likely result from this decrease in demand for existing space (*or increase in total supply*) is a lowering of the income potential, and value, for existing properties.

Industrial - Special purpose buildings (*those designed and constructed for a specialized use and not easily adaptable to other useful, economic purposes*), are particularly vulnerable to external obsolescence. If the demand for the product being produced by processes housed by such buildings decreases dramatically due to, say, technological innovation, those buildings may be made less valuable to potential buyers. The more unique or specialized the building (*and the more integrated the building and industrial process*), the greater is the potential for loss in value following a decrease in the demand for the product being produced. This is especially true if the decline in demand for the product can be expected to be sustained for the foreseeable future. The difficulty is not so much recognizing that a problem exists as it is quantifying the diminishment in value. As pointed out in **The Appraisal Institute’s The Appraisal of Real Estate, Ninth Edition**, there are basically two methods for estimating economic obsolescence - capitalization of lost net income (*more closely associated with income-producing properties*) and comparative sales analysis (*which requires sufficient, comparable sales of properties exhibiting the same problem and sufficient comparables without the problem for comparison*). Discussion of these methods, or variations of these methods, follows.

Recommended Methodology in Accounting for and Application of Depreciation

Various authoritative appraisal publications list and describe several traditional methods of estimating depreciation, along with the advantages and disadvantages of each. There are both direct and indirect methodologies.

Indirect measurement of depreciation involves either: (1) *using improved sales, abstracting the land values and then comparing the balance or remaining improvement value with an estimate of the improvement’s replacement cost to indicate a total amount of depreciation* (2) *capitalization of lost net income through comparison of operating data on various types and ages of income properties. These are indirect methods in that they provide a measure of total depreciation without necessarily identifying the specific impact of the various forms of depreciation on the value of an improvement.*

[Direct methods include: the Simple Age-Life, Modified Age-Life, Engineering Breakdown, and Observed Condition Breakdown techniques. (For publications containing detailed descriptions of these traditional methods, refer to the bibliography at the end of this section.)]

Depreciation Schedules – IAAO’s Property Appraisal and Assessment Administration provides a good discussion on the subject of depreciation for mass appraisal. It includes a step-by-step methodology for developing depreciation schedules locally, based on sales of existing buildings. But, as suggested by the text, various improvement types depreciate at different rates. Rates of depreciation also vary with quality or class of construction. And in order to develop several schedules for application by improvement type, there must be sufficient numbers of sales in each category.

It is suggested that the following schedules, which are improvement-type oriented, be used as guides to estimate typical percent remaining good/depreciation. Then, sales analysis, as discussed below, can be employed to develop neighborhood factors, enabling the appraiser to fine tune application of the schedules to the local market/submarkets.

Without consideration of market data, the more illusive causes of value loss are generally not detectable. Any mass appraisal process that largely employs the cost approach but lacks market analysis will likely fail to fully account for depreciation. Field review of improvements during a mass appraisal considers only physical deterioration based on the appraisers on-site observation. But with sufficient sales data and proper analysis, the appraiser can then discover and apply the more subtle forms of depreciation (*functional and economic*).

Note: The effective age will correspond to the actual age of the structure in the case where, in the appraiser’s best judgement, no extraordinary depreciation is evident. Where exceptional physical deterioration is observed, (*due to, for example, deferred maintenance*) the effective age estimate would exceed the actual age. Conversely, if the structure has been exceedingly well maintained, he/she could properly assign an effective age that is less than the building’s actual age.

Insert Depreciation guides in place of these pages 4-65 thru 4-72

Comparative Sales - Of all the various value-related elements to be considered by the appraiser, depreciation is perhaps the single most difficult to comprehend. Its one thing for an appraiser to prop a foot on the curb, take a long look at the structure, and make his/her best guess at its physical condition; but quite another to accurately quantify the total loss in value from all causes - those internal as well as external to the property.

As time passes, change is inevitable. Homes of a particularly desirable style in one era commonly become less so as time goes on. Also, as development trends unfold, the desirability of certain areas within town or community often changes, affecting the demand for, and values of, properties located within those areas.

These are examples of causes of declining values that are not directly attributable to the physical condition of the improvements. Rather, it is functional obsolescence caused by changes in building technology, lifestyles, consumer taste or preference that results in lower values on otherwise well maintained improvements. And it is economic or external depreciation that describes a loss in value from changes in the development trend or the economy of a town or community.

These forms of depreciation simply cannot be reasonably quantified absent sufficient representative sales or, in the case of declining commercial values, market rental/lease information. An estimate of depreciation based solely on the improvement's physical condition (either from on-site observation or from utilization of published depreciation schedules) will surely fall short, resulting in excessive assessments.

Abstraction - A sales database can be used to quantify and to apply the more subtle forms of depreciation - namely, exceptional functional obsolescence and economic obsolescence - to residential properties in mass appraisal. In older neighborhoods, although physical condition of homes may have been generally maintained, improvements often exhibit the style and function of times past, and sales data may be used to quantify the total loss in value perceived by potential buyers.

The spreadsheet on the next page describes how a good sales database can be used to adjust the improvement value using the market indicated total depreciation. The usual mass appraisal by the cost approach would normally take only typical physical deterioration into account.

Though it describes a method for adjusting relatively homogeneous areas or in-town neighborhoods to the market, this methodology can be employed to establish "*economic factors*" for less homogeneous areas. For example, remote unincorporated areas may be highly comparable to areas of the city with respect to construction cost; but the demand for property in these areas may not be as high (*less convenient, less secure, etc.*). Residences constructed in such an area might be highly desirable to the owner, but the market for them is likely more limited than for similar town properties. Such a negative locational influence is an example of economic obsolescence often characteristic of properties located in such relatively remote areas. Demand for (market) such properties is often relatively limited with the likely result of values being impacted negatively.

The example shown below represents the simplest method for arriving at the percent good figure that would be used after depreciation is calculated.

PERCENT GOOD =	$\frac{\text{Sale Price} - (\text{Land Value} + \text{Value of other Improvements})}{\text{Replacement Cost New}}$
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EXAMPLE

1. Assume the following facts:

Sales Price	\$150,000
Land value	- <u>\$ 25,000</u>
Improvement value	= \$125,000
Replacement cost new	\$152,500
Improvement Value / RCN	$\frac{\$125,000}{\$152,500} = .8196$

Using the Percent Good formula above, the Percent Good is: 82%

Using the formula shown above, a spread sheet such as the example below could be set up for analysis of a homogeneous set of properties, i.e. a neighborhood group.

Property	Saleprice	Land Value	Misc. Imp. Value	Improvement Value	RCN	Percent Good
1	\$150,000	\$30,000		\$120,000	\$127,500	94%
2	\$155,000	\$30,000	\$10,000	\$115,000	\$128,000	90%
3	\$142,500	\$30,000		\$112,500	\$124,900	90%
4	\$146,900	\$30,000	\$7,000	\$109,900	\$125,200	88%
5	\$162,300	\$35,000	\$18,000	\$109,300	\$126,300	87%
6	\$140,000	\$30,000		\$110,000	\$124,500	88%
7	\$142,900	\$30,000		\$112,900	\$124,500	91%
8	\$143,200	\$30,000		\$113,200	\$125,100	90%
9	\$139,000	\$30,000		\$109,000	\$119,500	91%

The following steps describe the methodology for creation of a database and for performing spreadsheet analyses such as the one above:

1. Establish and maintain a sales database. This involves systematically acquiring and verifying recent sales information and qualification or coding of each sale as to whether the sales are to be considered as having occurred in the ordinary course of business and, thus, a reasonable indication of market value.
2. Delineate homogeneous areas (*Neighborhoods*). An obvious starting point is residential subdivisions, where the physical delineation or establishment of control area boundaries is accomplished by super-imposing the control area lines on the boundaries of particular subdivisions or, perhaps, encompassing subdivisions similar in character. After all, with development of an entire area covering many lots by a single developer, lots will probably to be very uniform in size and shape and improvements are likely to be built around the same time (i.e., over a relatively short time span) and, therefore, of comparable age.

Also, with restrictive covenants which often accompany such developments and provide or things such as minimum building set back, minimum improvement size, and quality of construction guidelines, improvements within a particular subdivision tend to exhibit greater comparability with value-related characteristics than homes outside the subdivision or those found within other subdivisions

3. Establish land values, by control area, based on vacant land sales and taking into account typical site preparation costs and value attributable to an improved site that is absent in a vacant, unprepared lot.
4. Field review improvements, by control area, to insure correctness of quality grade assignments and to estimate physical condition (expressed by the improvements' percent remaining good) and make any necessary changes.
5. Tabulate qualified sales and make time adjustments (either + or -) to the uniform appraisal date (in revaluation years) or lien date (in non-reval. years).
6. From these qualified, time-adjusted sales, subtract the value of the land (established in Step #3) and the value of any miscellaneous improvements.
7. The difference between the improvement value abstracted from recent sales and the appraised value of the improvement represents depreciation from all sources (if sale value is less than appraised value) or appreciation (if sale value exceeds appraised value).
NOTE: *The appreciation value derived from the intangible ownership amenity accompanying ownership of high-demand properties in exceptionally desirable areas is treated as a market adjustment because it is a positive influence.*
8. **Result:** within relatively homogeneous areas, market based depreciation applied to the replacement cost new will, on average, adjust the initial estimates to values closer to the actual market as indicated by qualified sales from within the control area.

Depreciation and Time

Physical Life of Structure

Total Economic Life of Structure
(Most often of shorter duration than physical life)

Effective Age
(Indicates depreciation %)

Remaining Economic Life
(Indicates % good)

Actual Age

[May be greater than effective age if property has been exceptionally well maintained or is exceptionally well located; less than effective age if property has deferred maintenance or is poorly located; or equal to effective age if property has typical maintenance and location.]

Time

Adapted from IAAO's Property Appraisal and Assessment Administration, Chapter 8 - The Cost Approach)

DEPRECIATION REFERENCES

- Calvanico, Joseph J. Property tax issues: Asset life study. *Journal of Property Tax Management*. 1992 Summer; 4 (1): 69-72. ISSN: 1041-4797.
- Epley, Donald R. The concept and market extraction of effective age for residential properties. *Journal of Real Estate Research*. 1990 Spring; 5 (1): 41-52. ISSN: 0896-5803.
- Heath, John. Issues in appraisal depreciation: Part II, external obsolescence and related issues. *Journal of Property Tax Management*. 1992 Spring; 3 (4): 49-53. ISSN: 1041-4797.
- Heath, Judith. Issues in appraisal depreciation: Part I, deterioration and functional obsolescence. *Journal of Property Tax Management*. 1991 Fall; 3 (2): 59-62. ISSN:1041-4797.
- Hitchner, James R. The tax benefits of performing a depreciation study. *Real Estate Finance Journal*. 1992 Spring; 7 (4): 39-42. ISSN: 0898-0209.
- Kinnard, Dr. William N., Jr. and Dr. Byrl N. Boyce. "Estimation of Accrued Depreciation (Diminished Utility)." In: An Introduction to Appraising Real Property. Chicago, Illinois: Society of Real Estate Appraisers, 1978.
- Marshall Valuation Service. Los Angeles, California: Marshall & Swift, 1995: Section 97 - Depreciation.
- O'Flaherty, John D. "Cost Approach to Value" In: Edith J. Friedman, ed., Encyclopedia of Real Estate Appraising, Third Edition. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1978.
- Paschall, Robert H. A critique of 'percent good', or depreciation factors. *Valuation*. 1989 June; 34 (2): 2-12. ISSN: 0042-238X.
- Property Appraisal and Assessment Administration. Chicago, Illinois: International Association of Assessing Officers, 1990.
- Property Assessment Valuation. Chicago, Illinois: International Association of Assessing Officers, 1977.
- Residential Cost Handbook. Los Angeles, California: Marshall & Swift, 1995: Section E - Depreciation.
- The Appraisal of Real Estate. Ninth Edition. Chicago, Illinois: American Institute of Real Estate Appraisers, 1987.
- Warren, Charles B. Real estate appraisal in the 1990s; Depreciation -- thoughts about the cost approach. *Real Estate Review*. 1993 Summer; 23 (2): 14-16. ISSN: 0034- 0790.