

16 Appraising and Estimating Market Value

Real Estate Value
Appraising Market Value
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REAL ESTATE VALUE

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Types of value

The valuation of real property is one of the most fundamental activities in the real estate business. Its role is particularly critical in the transfer of real property, since the value of a parcel establishes the general price range for the principal parties to negotiate.

Real estate value in general is *the present monetary worth of benefits arising from the ownership of real estate*. The primary benefits that contribute to real estate value are:

- ▶ income
- ▶ appreciation
- ▶ use
- ▶ tax benefits

Ownership of real estate produces income when there are leases on the land, the improvements, or on air, surface, or subsurface rights. Such income is part of real estate value because an investor will pay money to buy the income stream generated by ownership of the property.

Appreciation is an increase in the market value of a parcel of land over time, usually resulting from a general rise in sale prices of real estate throughout a market area. Such an increase, whether actual or projected, is another investment benefit that contributes to real estate value.

Foundations of real estate value

The way a property is used -- whether residential, commercial, agricultural, recreational, etc. -- in large part determines the property's value. Each kind of use has its own benefits.

Depending on current tax law, tax benefits from ownership of a property may take the form of preferred treatment of capital gain, tax losses, depreciation, and deferrals of tax liability. These tax benefits contribute to the income and potential sale price of a property.

A number of economic forces interact in the marketplace to contribute to real estate value. Among the most recognized of these principles are those listed below.

Exhibit 16.1 Economic Principles Underlying Real Estate Value

supply and demand	utility	change
transferability	anticipation	highest and best use
substitution	contribution	conformity
		progression and regression
		assemblage
		subdivision

Supply and demand. The availability of certain properties interacts with the strength of the demand for those properties to establish prices. When demand for properties exceeds supply, a condition of scarcity exists, and real estate values rise. When supply exceeds demand, a condition of surplus exists, and real estate values decline. When supply and demand are generally equivalent, the market is considered to be in balance, and real estate values stabilize.

Utility. The fact that a property has a use in a certain marketplace contributes to the demand for it. Use is not the same as function. For instance, a swampy area may have an ecological function as a wetland, but it may have no economic utility if it cannot be put to some use that people in the marketplace are willing to pay for.

Transferability. How readily or easily title or rights to real estate can be transferred affects the property's value. Property that is encumbered has a value impairment since buyers do not want unmarketable title. Similarly, property that cannot be transferred due to disputes among owners may cause the value to decline, because the investment is wholly illiquid until the disputes are resolved.

Anticipation. The benefits a buyer *expects to derive from a property over a holding period* influence what the buyer is willing to pay for it. For example, if an investor anticipates an annual rental income from a leased property to be one million dollars, this expected sum has a direct bearing on what the investor will pay for the property.

Substitution. According to the principle of substitution, a buyer will *pay no more for a property than the buyer would have to pay for an equally desirable and available substitute property*. For example, if three houses for sale are essentially similar in size, quality and location, a potential buyer is unlikely to choose the one that is priced significantly higher than the other two.

Contribution. The principal of contribution focuses on the degree to which a particular improvement affects market value of the overall property. In essence,

the contribution of the improvement is *equal to the change in market value that the addition of the improvement causes*. For example, adding a bathroom to a house may contribute an additional \$15,000 to the appraised value. Thus the contribution of the bathroom is \$15,000. Note that an improvement's contribution to value has little to do with the improvement's cost. The foregoing bathroom may have cost \$5,000 or \$20,000. Contribution is what the market recognizes as the change in value, not what an item cost. If continuous improvements are added to a property, it is possible that, at some point, the cost of adding improvements to a property no longer contributes a corresponding increase in the value of the property. When this occurs, the property suffers from *diminishing marginal return*, where the costs to improve exceed contribution.

Change. Market conditions are in a state of flux over time, just as the condition of a property itself changes. These fluctuations and changes will affect the benefits that can arise from the property, and should be reflected in an estimate of the property's value. For example, the construction of a neighborhood shopping center in the vicinity of a certain house may increase the desirability of the house's location, and hence, its value.

Highest and best use. This principle holds that there is, theoretically, a single use for a property that produces the greatest income and return. A property achieves its maximum value when it is put to this use. If the actual use is not the highest and best use, the value of the property is correspondingly less than optimal. Technically, highest and best use must be legally permissible, physically possible, financially feasible, and maximally productive.

For example, a property with an old house on it may not be in its highest and best use if it is surrounded by retail properties. If zoning permits the property to be converted to a retail use, its highest and best use may well be retail rather than residential.

Conformity. This principle holds that a property's maximal value is attained when its form and use are in tune with surrounding properties and uses. For example, a two-bedroom, one-bathroom house surrounded by four-bedroom, three-bathroom homes may derive maximal value from a room addition.

Progression and regression. The value of a property influences, and is influenced by, the values of neighboring properties. If a property is surrounded by properties with higher values, its value will tend to rise (progression); if it is surrounded by properties with lower values, its value will tend to fall (regression).

Assemblage. Assemblage, or the conjoining of adjacent properties, sometimes creates a combined value that is greater than the values of the unassembled properties. The excess value created by assemblage is called **plottage value**.

Subdivision. The division of a single property into smaller properties can also result in a higher total value. For instance, a one-acre suburban site appraised at \$50,000 may be subdivided into four quarter-acre lots worth \$30,000 each. This principle contributes significantly to the financial feasibility of subdivision development.

Types of value

The purpose of an appraisal influences an estimate of the value of a parcel of real estate. This is because there are different types of value related to different appraisal purposes. Some of the possibilities are listed below.

Exhibit 16.2 Types of Real Estate Value

market	reversionary
reproduction	appraised
replacement	rental
salvage	leasehold
plottage	insured
assessed	book
condemned	mortgage

Market value. Market value is an estimate of the price at which a property will sell at a particular time. This type of value is the one generally sought in appraisals and used in brokers' estimates of value.

Reproduction value. Reproduction value is the value based on the cost of constructing a precise duplicate of the subject property's improvements, assuming current construction costs.

Replacement value. Replacement value is the value based on the cost of constructing a functional equivalent of the subject property's improvements, assuming current construction costs.

Salvage value. Salvage value refers to the nominal value of a property that has reached the end of its economic life. Salvage value is also an estimate of the price at which a structure will sell if it is dismantled and moved.

Plottage value. Plottage value is an estimate of the value that the process of assemblage adds to the combined values of the assembled properties.

Assessed value. Assessed value is the value of a property as estimated by a taxing authority as the basis for ad valorem taxation.

Condemned value. Condemned value is the value set by a county or municipal authority for a property which may be taken by eminent domain.

Depreciated value. Depreciated value is a value established by subtracting accumulated depreciation from the purchase price of a property.

Reversionary value. Reversionary value is the estimated selling price of a property at some time in the future. This value is used most commonly in a proforma investment analysis where, at the end of a holding period, the property is sold and the investor's capital reverts to the investor.

Appraised value. Appraised value is an appraiser's opinion of a property's value.

Rental value. Rental value is an estimate of the rental rate a property can command for a specific period of time.

Leasehold value. Leasehold value is an estimate of the market value of a lessee's interest in a property.

Insured value. Insured value is the face amount a casualty or hazard insurance policy will pay in case a property is rendered unusable.

Book value. Book value is the value of the property as carried on the accounts of the owner. The value is generally equal to the acquisition price plus capital improvements minus accumulated depreciation.

Mortgage value. Mortgage value is the value of the property as collateral for a loan.

APPRAISING MARKET VALUE

Market value The appraisal and its uses Steps in the appraisal process

Market value

Market value is an opinion of the price that a willing seller and willing buyer would probably agree on for a property at a given time if:

- ▶ the transaction is a cash transaction
- ▶ the property is exposed on the open market for a reasonable period
- ▶ buyer and seller have full information about market conditions and about potential uses
- ▶ there is no abnormal pressure on either party to complete the transaction
- ▶ buyer and seller are not related (it is an "arm's length" transaction)
- ▶ title is marketable and conveyable by the seller
- ▶ the price is a "normal consideration," that is, it does not include hidden influences such as special financing deals, concessions, terms, services, fees, credits, costs, or other types of consideration.

Another way of describing market value is that it is the highest price that a buyer would pay and the lowest price that the seller would accept for the property.

The market price, as opposed to market value, is what a property actually sells for. Market price should theoretically be the same as market value if all the conditions essential for market value were present. Market price, however, may not reflect the analysis of comparables and of investment value that an estimate of market value includes.

The appraisal and its uses

While most appraisals seek to estimate market value, any of the types of value described earlier may be the objective of an appraisal. An appraisal is distinguished from other estimates of value in that it is an opinion of value supported by data and performed by a professional, disinterested third party. Appraisers acting in a professional capacity are also regulated by state laws and bound to standards set by the appraisal industry.

Broker's opinion of value. A broker's opinion of value may resemble an appraisal, but it differs from an appraisal in that it is not necessarily performed by a disinterested third party or licensed professional and it generally uses only a limited form of one of the three appraisal approaches. In addition, the opinion is not subject to regulation, nor does it follow any particular professional standards.

Uses. The appraisal itself is used in real estate decision-making to estimate one or more types of value, depending on the kind of decision to be made. Appraisals may be ordered and used by mortgage lenders, government agencies, investors, utilities companies, and real estate buyers and sellers.

An appraisal helps in setting selling prices and rental rates, determining the level of insurance coverage, establishing investment values, and establishing the value of the real estate as collateral for a loan.

Appraisals may be developed and reported in a narrative format or on a prescribed form with attachments. The most commonly used form for residential appraisals is the "Uniform Residential Appraisal Report" (URAR) promoted by the Federal National Mortgage Association (FNMA) and Federal Home Loan Mortgage Corporation (FHLMC) (known as Fannie Mae and Freddie Mac, respectively).

Steps in the appraisal process

A systematic procedure enables an appraiser to collect, organize and analyze the necessary data to produce an appraisal report.

Exhibit 16.3 Steps in the Appraisal Process

1. Identify the purpose
2. Assimilate relevant data
3. Assess the highest and best use
4. Estimate the value of the land
5. Apply the three approaches to estimating value
6. Reconcile the values from the approaches
7. Compile the report

Purpose. The first step in the process is to define the appraisal problem and the purpose of the appraisal. This involves

- ▶ identifying the subject property by legal description
- ▶ specifying the interest to be appraised
- ▶ specifying the purpose of the appraisal, for example, to identify market value for a purchase, identify rental levels, or establish a value as collateral for a loan
- ▶ specifying the date for which the appraisal is valid
- ▶ identifying the type of value to be estimated

Data. The second step is to collect, organize and analyze relevant data about the subject property. Information relevant to the property includes notes and drawings from physical inspection of the subject, public tax and title records, and reproduction costs. Relevant information about the market includes environmental, demographic, and economic reports concerning the neighborhood, community, and region.

Highest and best use. The third step is to analyze market conditions to identify the most profitable use for the subject property. This use may or may not be the existing use.

Land value. The fourth step is to estimate the land value of the subject. An appraiser does this by comparing the subject site, but not its buildings, with similar sites in the area, and making adjustments for significant differences.

Three approaches. The fifth step is to apply the three basic approaches to value to the subject: *the sales comparison approach, the cost approach, and the income capitalization approach.* Using multiple methods serves to guard against errors and to set a range of values for the final estimate.

Reconciliation. The sixth step is to reconcile the value estimates produced by the three approaches to value into a final value estimate. To do this, an appraiser must

- ▶ weigh the appropriateness of a particular approach to the type of property being appraised
- ▶ take into account the quality and quantity of data obtained in each method

Report. The final step is to present the estimate of value in the format requested by the client.

THE SALES COMPARISON APPROACH

Steps in the approach

Identifying comparables

Adjusting comparables

Weighting comparables

Broker's comparative market analysis

The sales comparison approach, also known as the *market data approach*, is used for almost all properties. It also serves as the basis for a broker's opinion of value. It is based on the principle of substitution-- that a buyer will pay no more for the subject property than would be sufficient to purchase a comparable property-- and contribution-- that specific characteristics add value to a property.

The sales comparison approach is widely used because it takes into account the subject property's specific amenities in relation to competing properties. In addition, because of the currency of its data, the approach incorporates present market realities.

Steps in the approach

The sales comparison approach is limited in that every property is unique. As a result, it is difficult to find good comparables, especially for special-purpose properties. In addition, the market must be active; otherwise, sale prices lack currency and reliability.

The sales comparison approach consists of comparing sale prices of recently sold properties that are comparable with the subject, and making dollar adjustments to the price of each comparable to account for competitive differences with the subject. After identifying the adjusted value of each comparable, the appraiser weights the reliability of each comparable and the factors underlying how the adjustments were made. The weighting yields a final value range based on the most reliable factors in the analysis.

Exhibit 16.4 Steps in the Sales Comparison Approach

1. Identify comparable sales.
2. Compare comparables to the subject and make adjustments to comparables.
3. Weight values indicated by adjusted comparables for the final value estimate of the subject.

Identifying comparables

To qualify as a comparable, a property must:

- ▶ resemble the subject in size, shape, design, utility and location
- ▶ have sold recently, generally within six months of the appraisal
- ▶ have sold in an arm's-length transaction

An appraiser considers three to six comparables, and usually includes at least three in the appraisal report.

Appraisers have specific guidelines within the foregoing criteria for selecting comparables, many of which are set by secondary market organizations such as FNMA. For example, to qualify as a comparable for a mortgage loan appraisal, a property might have to be located within one mile of the subject. Or perhaps the size of the comparable must be within a certain percentage of improved area in relation to the subject.

The time-of-sale criterion is important because transactions that occurred too far in the past will not reflect appreciation or recent changes in market conditions.

An arm's length sale involves objective, disinterested parties who are presumed to have negotiated a market price for the property. If the sale of a house occurred between a father and a daughter, for example, one might assume that the transaction did not reflect market value.

Adjusting comparables

Principal sources of data for generating the sales comparison are tax records, title records, and the local multiple listing service.

The appraiser adjusts the sale prices of the comparables to account for competitive differences with the subject property. Note that the sale prices of the comparables are known, while the value and price of the subject are not. Therefore, adjustments can be made *only to the comparables' prices, not to the subject's*. Adjustments are made to the comparables in the form of a value deduction or a value addition.

Adding or deducting value. If the comparable is *better* than the subject in some characteristic, an amount is *deducted* from the sale price of the comparable. This neutralizes the comparable's competitive advantage in an adjustment category.

For example, a comparable has a swimming pool and the subject does not. To equalize the difference, the appraiser deducts an amount, say \$6,000, from the sale price of the comparable. Note that the adjustment reflects the contribution of the swimming pool to market value. The adjustment amount is not the cost of the pool or its depreciated value.

If the comparable is *inferior* to the subject in some characteristic, an amount is *added* to the price of the comparable. This adjustment equalizes the subject's competitive advantage in this area.

Adjustment criteria. The principal factors for comparison and adjustment are *time of sale, location, physical characteristics, and transaction characteristics*.

- ▶ **Time of sale**

An adjustment may be made if market conditions, market prices, or financing availability have changed significantly since the date of the comparable's sale. Most often, this adjustment is to account for appreciation.

- ▶ **Location**

An adjustment may be made if there are differences between the comparable's location and the subject's, including neighborhood desirability and appearance, zoning restrictions, and general price levels.

- ▶ **Physical characteristics**

Adjustments may be made for marketable differences between the comparable's and subject's lot size, square feet of livable area (or other appropriate measure for the property type), number of rooms, layout, age, condition, construction type and quality, landscaping, and special amenities.

Weighting comparables

► Transaction characteristics

An adjustment may be made for such differences as mortgage loan terms, mortgage assumability, and owner financing.

Adding and subtracting the appropriate adjustments to the sale price of each comparable results in an adjusted price for the comparables that indicates the value of the subject. The last step in the approach is to perform a weighted analysis of the indicated values of each comparable. The appraiser, in other words, must identify which comparable values are more indicative of the subject and which are less indicative.

An appraiser primarily relies on experience and judgment to weight comparables. There is no formula for selecting a value from within the range of all comparables analyzed. However, there are three quantitative guidelines: the total number of adjustments; the amount of a single adjustment; and the net value change of all adjustments.

As a rule, the fewer the total number of adjustments, the smaller the adjustment amounts, and the less the total adjustment amount, the more reliable the comparable.

Number of adjustments. In terms of total adjustments, the comparable with the fewest adjustments tends to be most similar to the subject, hence the best indicator of value. If a comparable requires excessive adjustments, it is increasingly less reliable as an indicator of value. The underlying rationale is that there is a margin of error involved in making any adjustment. Whenever a number of adjustments must be made, the margin of error compounds. By the time six or seven adjustments are made, the margin becomes significant, and the reliability of the final value estimate is greatly reduced.

Single adjustment amounts. The dollar amount of an adjustment represents the variance between the subject and the comparable for a given item. If a large adjustment is called for, the comparable becomes less of an indicator of value. The smaller the adjustment, the better the comparable is as an indicator of value. If an appraisal is performed for mortgage qualification, the appraiser may be restricted from making adjustments in excess of a certain amount, for example, anything in excess of 10-15% of the sale price of the comparable. If such an adjustment would be necessary, the property is no longer considered comparable.

Total net adjustment amount. The third reliability factor in weighting comparables is the total net value change of all adjustments added together. If a comparable's total adjustments alter the indicated value only slightly, the comparable is a good indicator of value. If total adjustments create a large dollar amount between the sale price and the adjusted value, the comparable is a poorer indicator of value. Fannie Mae, for instance, will not accept the use of a comparable where total net adjustments are in excess of 15% of the sale price.

For example, an appraiser is considering a property that sold for \$100,000 as a comparable. After all adjustments are made, the indicated value of the comparable is \$121,000, a 21% difference in the comparable's sale price. This property, if allowed at all, would be a weak indicator of value.

Broker's comparative market analysis

A broker or salesperson who is attempting to establish a listing price or range of prices for a property uses a scaled-down version of the appraiser's sales comparison approach called a comparative market analysis, or CMA (also called a competitive market analysis). While the CMA serves a useful purpose in setting general price ranges, brokers and agents need to exercise caution in presenting a CMA as an appraisal, which it is not. Two important distinctions between the two are objectivity and comprehensiveness.

First, the broker is not unbiased: he or she is motivated by the desire to obtain a listing, which can lead one to distort the estimated price. Secondly, the broker's CMA is not comprehensive: the broker does not usually consider the full range of data about market conditions and comparable sales that the appraiser must consider and document. Therefore, the broker's opinion will be less reliable than the appraiser's.

The following exhibit illustrates the sales comparison approach. An appraiser is estimating market value for a certain house. Four comparables are adjusted to find an indicated value for the subject. The grid which follows the property and market data shows the appraiser's adjustments for the differences between the four comparables and the subject.

Exhibit 16.5 Sales Comparison Approach Illustration

Data

Subject property:	8 rooms-- 3 bedrooms, two baths, kitchen, living room, family room; 2,000 square feet of gross living area; 2-car attached garage; landscaping is good. Construction is frame with aluminum siding.
Comparable A:	Sold for 100,000 within previous month; conventional financing at current rates; located in subject's neighborhood with similar locational advantages; house approximately same age as subject; lot size smaller than subject; view similar to subject; design less appealing than subject's; construction similar to subject; condition similar to subject; 7 rooms-- two bedrooms, one bath; 1,900 square feet of gross living area; 2-car attached garage; landscaping similar to subject.
Comparable B:	Sold for 120,000 within previous month; conventional financing at current rates; located in subject's neighborhood with similar locational advantages; house six years newer than subject; lot size smaller than subject; view is better than the subject's; design is more appealing than subject's; construction (brick and frame) better than subject's; better condition than subject; 10 rooms-four bedrooms, three baths; 2,300 square feet of gross living area; 2-car attached garage; landscaping similar to subject.
Comparable C:	Sold for 115,000 within previous month; conventional financing at current rates; located in subject's neighborhood with similar locational advantages; house five years older than subject; lot size larger than subject; view similar to subject; design and appeal similar to subject's; construction similar to subject; condition similar to subject; 8 rooms-- three bedrooms, two baths; 2,000 square feet of gross living area; 2-car attached garage; landscaping similar to subject.
Comparable D:	Sold for 109,000 within previous month; conventional financing at current rates; located in a neighborhood close to subject's, but more desirable than subject's; house approximately same age as subject; lot size same as subject; view similar to subject; design less appealing than subject's; construction (frame) poorer than subject's; poorer condition than subject; 7 rooms-- two bedrooms, one and one half baths; 1,900 square feet of gross living area; 2-car attached garage; landscaping similar to subject.

Exhibit 16.5, cont. Sales Comparison Approach Illustration

Adjustments

	Subject	A	B	C	D
Sale price		100,000	120,000	115,000	109,000
Financing terms		standard	standard	standard	standard
Sale date	NOW	equal	equal	equal	equal
Location		equal	equal	equal	-2,000
Age		equal	-1,200	+1,000	equal
Lot size		+1,000	+1,000	-1,000	equal
Site/view		equal	-1,000	equal	equal
Design/appeal		+1,000	-1,200	equal	+500
Construction quality	good	equal	-3,000	equal	+1,000
Condition	good	equal	-5,000	equal	+2,000
No. of rooms	8				
No. of bedrooms	3	+500	-500	equal	+500
No. of baths	2	+1,000	-1,500	equal	+500
Gross living area	2,000	+1,000	-5,000	equal	+1,000
Other space					
Garage	2 car/attd.	equal	equal	equal	equal
Other improvements					
Landscaping	good	equal	equal	equal	equal
Net adjustments		+4,500	-17,400	0	+3,500
Indicated value	112,000	104,500	102,600	115,000	112,500

For comparable A, the appraiser has made additions to the lot value, design, number of bedrooms and baths, and for gross living area. This accounts for the comparable's *deficiencies* in these areas relative to the subject. A total of five adjustments amount to \$4,500, or 4.5% of the purchase price.

For comparable B, the appraiser has deducted values for age, site, design, construction quality, condition, bedrooms, baths, and living area. This accounts for the comparable's superior qualities relative to the subject. The only addition is

the lot size, since the subject's is larger. A total of nine adjustments amount to \$17,400, or 14.5% of the sale price.

For comparable C, the appraiser has added value for the age and deducted value for the lot size. The two adjustments offset one another for a net adjustment of zero.

For comparable D, one deduction has been made for the comparable's superior location. This is offset by six additions reflecting the various areas where the comparable is inferior to the subject. A total of seven adjustments amount to \$3,500, or 3.2% of the sale price.

In view of all adjusted comparables, the appraiser developed a final indication of value of \$112,000 for the subject. Underlying this conclusion is the fact that Comparable C, since it only has two minor adjustments which offset each other, it is by far the best indicator of value. Comparable D might be the second best indicator, since the net adjustments are very close to the sale price. Comparable A might be the third best indicator, since it has the second fewest number of total adjustments. Comparable B is the least reliable indicator, since there are numerous adjustments, three of which are of a significant amount. In addition, Comparable B is questionable altogether as a comparable, since total adjustments alter the sale price nearly 15%.

THE COST APPROACH

Types of cost appraised

Depreciation

Steps in the approach

The cost approach is most often used for recently built properties where the actual costs of development and construction are known. It is also used for special-purpose buildings which cannot be valued by the other methods because of lack of comparable sales or income data.

The strengths of the cost approach are that it:

- ▶ provides an upper limit for the subject's value based on the undepreciated cost of reproducing the improvements
- ▶ is very accurate for a property with new improvements which are the highest and best use of the property.

The limitations of the cost approach are that:

- ▶ the cost to create improvements is not necessarily the same as market value
- ▶ depreciation is difficult to measure, especially for older buildings

Types of cost appraised

The cost approach generally aims to estimate either the *reproduction cost* or the *replacement cost* of the subject property.

Reproduction cost is the cost of constructing, at current prices, a *precise duplicate* of the subject improvements. **Replacement cost** is the cost of constructing, at current prices and using current materials and methods, a *functional equivalent* of the subject improvements.

Replacement cost is used primarily for appraising older structures, since it is impractical to consider reproducing outmoded features and materials. However, reproduction cost is preferable whenever possible because it facilitates the calculation of depreciation on a structure.

Depreciation

A cornerstone of the cost approach is the concept of depreciation. Depreciation is the *loss of value in an improvement over time*. Since land is assumed to retain its value indefinitely, depreciation only applies to the improved portion of real property. The loss of an improvement's value can come from any cause, such as deterioration, obsolescence, or changes in the neighborhood. The sum of depreciation from all causes is accrued depreciation.

An appraiser considers depreciation as having three causes: physical deterioration, functional obsolescence, and economic obsolescence.

Physical deterioration. Physical deterioration is wear and tear from use, decay, and structural deterioration. Such deterioration may be either *curable or incurable*.

Curable deterioration occurs when the costs of repair of the item are less than or equal to the resulting increase in the property's value. For example, if a paint job costs \$3,000, and the resulting value increase is \$4,000, the deterioration is considered curable. Incurable deterioration is the opposite: the repair will cost more than can be recovered by its contribution to the value of the building. For example, if the foregoing paint job cost \$5,000, the deterioration would be considered incurable.

Functional obsolescence. Functional obsolescence occurs when a property has outmoded physical or design features which are no longer desirable to current users. If the obsolescence is curable, the cost of replacing or redesigning the outmoded feature would be offset by the contribution to overall value, for example, a lack of central air conditioning. If the functional obsolescence is incurable, the cost of the cure would exceed the contribution to overall value, for example, a floor layout with a bad traffic pattern that would cost three times as much as the ending contribution to value.

Economic obsolescence. Economic (or **external**) obsolescence is the loss of value due to adverse changes in the surroundings of the subject property that make the subject less desirable. Since such changes are usually beyond the control of the property owner, economic obsolescence is considered *an incurable value loss*. Examples of economic obsolescence include a deteriorating neighborhood, a rezoning of adjacent properties, or the bankruptcy of a large employer.

Steps in the approach

The cost approach consists of estimating the value of the land "as if vacant;" estimating the cost of improvements; estimating and deducting accrued depreciation; and adding the estimated land value to the estimated depreciated cost of the improvements.

Exhibit 16.6 Steps in the Cost Approach

1. Estimate land value.
2. Estimate reproduction or replacement cost of improvements.
3. Estimate accrued depreciation.
4. Subtract accrued depreciation from reproduction or replacement cost.
5. Add land value to depreciated reproduction or replacement cost.

Estimate land value. To estimate land value, the appraiser uses the sales comparison method: find properties which are comparable to the subject property in terms of land and adjust the sale prices of the comparables to account for competitive differences with the subject property. Common adjustments concern location, physical characteristics, and time of sale. The indicated values of the comparable properties are used to estimate the land value of the subject. The implicit assumption is that the subject land is vacant (unimproved) and available for the highest and best use.

Estimate reproduction or replacement cost of improvements. There are several methods for estimating the reproduction or replacement cost of improvements. These are as follows.

▶ **Unit comparison method (square-foot method)**

The appraiser examines one or more new structures that are similar to the subject's improvements, determines a cost per unit for the benchmark structures, and multiplies this cost per unit times the number of units in the subject. The unit of measurement is most commonly denominated in square feet.

▶ **Unit-in-place method**

The appraiser uses materials cost manuals and estimates of labor costs, overhead, and builder's profit to estimate the cost of constructing separate components of the subject. The overall cost estimate is the sum of the estimated costs of individual components.

▶ **Quantity survey method**

The appraiser considers in detail all materials, labor, supplies, overhead and profit to get an accurate estimate of the actual cost to build the improvement. More thorough than the unit-in-place

method, this method is used less by appraisers than it is by engineers and architects.

▶ **Cost indexing method**

The original cost of constructing the improvement is updated by applying a percentage increase factor to account for increases in nominal costs over time.

Estimate accrued depreciation. Accrued depreciation is often estimated by the **straight-line** method, also called the **economic age-life method**. This method assumes that depreciation occurs at a steady rate over the economic life of the structure. Therefore, a property suffers the same incremental loss of value each year.

The **economic life** is the period during which the structure is expected to remain useful in its original use. The cost of the structure is divided by the number of years of economic life to determine an annual amount for depreciation. The straight-line method is primarily relevant to depreciation from physical deterioration.

Subtract accrued depreciation from reproduction or replacement cost. The sum of accrued depreciation from all sources is subtracted from the estimated cost of reproducing or replacing the structure. This produces an estimate of the current value of the improvements.

Add land value to depreciated reproduction or replacement cost. To complete the cost approach, the estimated value of the land "as if vacant" is added to the estimated value of the depreciated reproduction or replacement cost of the improvements. This yields the final value estimate for the property by the cost approach.

Exhibit 16.7 Cost Approach Illustration

I. LAND VALUE

Land value, by direct sales comparison	40,000
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II. IMPROVEMENTS COST

Main building (by one or more of the four methods)	130,000
Plus: other structures	<u>8,000</u>
Total cost new	138,000

III. ACCRUED DEPRECIATION

Physical depreciation	
Curable	5,000
Incurable	7,000
Functional obsolescence	3,000
External obsolescence	
Total depreciation	<u>15,000</u>

IV. IMPROVEMENTS COST MINUS DEPRECIATION

Total cost new	138,000
Less: total depreciation	<u>15,000</u>
Depreciated value of improvements	123,000

V. OVERALL ESTIMATED VALUE

Total land value	40,000
Depreciated value of improvements	<u>123,000</u>
Indicated value by cost approach	163,000

THE INCOME CAPITALIZATION APPROACH

Steps in the approach

Gross rent and gross income multiplier approach

The income capitalization approach, or income approach, is used for income properties and sometimes for other properties in a rental market where the appraiser can find rental data. The approach is based on the principle of anticipation: the expected future income stream of a property underlies what an investor will pay for the property. It is also based on the principle of substitution: that an investor will pay no more for a subject property with a certain income stream than the investor would have to pay for another property with a similar income stream.

The strength of the income approach is that it is used by investors themselves to determine how much they should pay for a property. Thus, in the right circumstances, it provides a good basis for estimating market value.

The income capitalization approach is limited in two ways. First, it is difficult to determine an appropriate capitalization rate. This is often a matter of judgment and experience on the part of the appraiser. Secondly, the income approach relies on market information about income and expenses, and it can be difficult to find such information.

Steps in the approach

The income capitalization method consists of estimating annual net operating income from the subject property, then applying a capitalization rate to the income. This produces a principal amount that the investor would pay for the property.

Exhibit 16.8 Steps in the Income Capitalization Approach

1. Estimate potential gross income.
2. Estimate effective gross income.
3. Estimate net operating income.
4. Select a capitalization rate.
5. Apply the capitalization rate.

Estimate potential gross income. Potential gross income is the scheduled rent of the subject plus income from miscellaneous sources such as vending machines and telephones. Scheduled rent is the total rent a property will produce if fully leased at the established rental rates.

$$\begin{array}{r} \text{Scheduled rent} \\ + \text{ Other income} \\ \hline \text{Potential gross income} \end{array}$$

An appraiser may estimate potential gross rental income using current market rental rates (market rent), the rent specified by leases in effect on the property (contract rent), or a combination of both. Market rent is determined by market studies in a process similar to the sales comparison method. Contract rent is used primarily if the existing leases are not due to expire in the short term and the tenants are unlikely to fail or leave the lease.

Estimate effective gross income. Effective gross income is potential gross income minus an allowance for vacancy and credit losses.

$$\begin{array}{r} \text{Potential gross income} \\ - \text{Vacancy \& credit losses} \\ \hline \text{Effective gross income} \end{array}$$

Vacancy loss refers to an amount of potential income lost because of unrented space. Credit loss refers to an amount lost because of tenants' failure to pay rent for any reason. Both are estimated on the basis of the subject property's history, comparable properties in the market, and assuming typical management quality. The allowance for vacancy and credit loss is usually estimated as a percentage of potential gross income.

Estimate net operating income. Net operating income is effective gross income minus total operating expenses.

$$\begin{array}{r}
 \text{Effective gross income} \\
 - \text{Total operating expenses} \\
 \hline
 \text{Net operating income}
 \end{array}$$

Operating expenses include fixed expenses and variable expenses. Fixed expenses are those that are incurred whether the property is occupied or vacant, for example, real estate taxes and hazard insurance. Variable expenses are those that relate to actual operation of the building, for example, utilities, janitorial service, management, and repairs.

Operating expenses typically include an annual reserve fund for replacement of equipment and other items that wear out periodically, such as carpets and heating systems. Operating expenses do not include debt service, expenditures for capital improvements, or expenses not related to operation of the property.

Select a capitalization rate. The capitalization rate is an estimate of the *rate of return* an investor will demand on the investment of capital in a property such as the subject. The judgment and market knowledge of the appraiser play an essential role in the selection of an appropriate rate for the subject property. In most cases, the appraiser will research capitalization rates used on similar properties in the market.

Apply the capitalization rate. An appraiser now obtains an indication of value from the income capitalization method by dividing the estimated net operating income for the subject by the selected capitalization rate

$$\frac{NOI}{\text{capitalization rate}} = \text{value}$$

Using traditional symbols for income (I), rate (R) and value (V), the formula for value is

$$\frac{I}{R} = V$$

Exhibit 16.9 Income Capitalization Method Illustration

I. ESTIMATE POTENTIAL GROSS INCOME

Potential gross rental income	48,000
Plus: other income	<u>500</u>
Potential gross income	48,500

II. ESTIMATE EFFECTIVE GROSS INCOME

Less: vacancy and collection losses	<u>2,400</u>
Effective gross income	46,100

III. ESTIMATE NET OPERATING INCOME

Operating expenses	
Real estate taxes	8,000
Insurance	1,100
Utilities	3,000
Repairs	1,000
Maintenance	4,000
Management	3,000
Reserves	400
Legal and accounting	<u>500</u>
Total expenses	21,000
Effective gross income	46,100
Less: total expenses	<u>21,000</u>
Net operating income	25,100

IV. SELECT CAPITALIZATION RATE

Capitalization rate: 11%

V. APPLY CAPITALIZATION RATE

$$\begin{array}{r} I \quad 25,100 \\ --- = V = \text{-----} = 228,000 \text{ (rounded)} \\ R \quad .11 \end{array}$$

Indicated value by income approach: 228,000

Gross rent and gross income multiplier approach

The gross rent multiplier (GRM) and gross income multiplier (GIM) approaches are simplified income-based methods used primarily for properties that produce or might produce income but are not primarily income properties. Examples are single-family homes and duplexes.

The methods consist of applying a multiplier to the estimated gross income or gross rent of the subject. The multiplier is derived from market data on sale prices and gross income or gross rent.

The advantage of the income multiplier is that it offers a relatively quick indication of value using an informal methodology. However, the approach leaves many variables out of consideration such as vacancies, credit losses, and operating expenses. In addition, the appraiser must have market rental data to establish multipliers.

Steps in the gross rent multiplier approach. There are two steps in the gross rent multiplier approach.

First, select a gross rent multiplier by examining the sale prices and monthly rents of comparable properties which have sold recently. The appraiser's judgment and market knowledge are critical in determining an appropriate gross rent multiplier for the subject. The gross rent multiplier for a property is:

$$\frac{\text{Price}}{\text{Monthly rent}} = \text{GRM}$$

Second, estimate the value of the subject by multiplying the selected GRM by the subject's monthly income.

$$\text{GRM} \times \text{Subject monthly rent} = \text{estimated value}$$

Exhibit 16.10 Gross Rent Multiplier Illustration

Property	Sale price	Monthly rent	GRM
Comparable A	125,000	830	151
Comparable B	124,000	750	165
Comparable C	162,000	1,100	147
Comparable D	152,000	900	169
Subject	160,000	1,000	160

In the illustration, the indicated GRM for the subject is 160, based on the appraiser's research and judgment. Applying the GRM to a rental rate of \$1,000, the indicated value for the subject is \$160,000.

Steps in the gross income multiplier approach. The GIM approach is identical to the GRM approach, except that a different denominator is used in the formula. Step one is to select a gross income multiplier by examining the sale prices and gross annual incomes of comparable properties which have sold recently. The gross income multiplier for a property is:

$$\frac{\text{Price}}{\text{Gross annual income}} = \text{GIM}$$

Step two is to estimate the value of the subject by multiplying the selected GIM by the subject's gross annual income:

$$GIM \times \text{Subject gross annual income} = \text{estimated value}$$

Exhibit 16.11 Gross Income Multiplier Illustration

Property	Sale price	Gross income	GIM
Comparable A	125,000	9,960	12.55
Comparable B	124,000	9,000	13.78
Comparable C	162,000	13,200	12.27
Comparable D	152,000	10,800	14.07
Subject	162,000	12,000	13.50

In the illustration, the indicated GIM for the subject is 13.5 , based on the appraiser's research and judgment. Applying the GIM to the property's gross annual income gives an indicated value for the subject of \$162,000.

REGULATION OF APPRAISAL PRACTICE

Licensure Professional standards Professional associations and designations

Licensure

In 1989, Congress passed the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) in response to the savings and loan crisis. This act included provisions to regulate appraisal.

Title XI of FIRREA requires that competent individuals whose professional conduct is properly supervised perform all appraisals used in federally-related transactions. As of January 1, 1993, such federally-related appraisals must be performed only by state-certified appraisers. A state-certified appraiser is one who has passed the necessary examinations and competency standards as established by each state in conformance with the federal standards stated in FIRREA and USPAP (Uniform Standards of Professional Appraisal Practice). The criteria for certification as a minimum must follow those established by the Appraiser Qualifications Board of the Appraisal Foundation.

Professional standards

The Uniform Standards of Professional Appraisal Practice (USPAP) is a set of standards, guidelines and provisions for the appraisal industry. It resulted from the cooperation of nine national appraisal organizations in 1985.

The "competence" provision requires appraisers to assess whether they have the necessary knowledge and competence to perform a specific assignment. If they do not, they must disclose this fact.

The "departure" provision permits appraisers to perform an appraisal that does not meet all the USPAP guidelines provided they have informed the client of the limitations of the incomplete appraisal and if the partial appraisal will not be misleading.

The "standards" concern:

- ▶ recognized appraisal methods
- ▶ definition of due diligence
- ▶ how appraisal results are reported
- ▶ disclosures and assumptions
- ▶ appraisal review
- ▶ real estate analysis
- ▶ mass appraisals
- ▶ personal property appraisals
- ▶ business appraisals
- ▶ compliance with USPAP
- ▶ compliance with the Code of Professional Ethics and Standards of Professional Practice

Professional associations and designations

Prior to the establishment of state certification programs, the only indication of professional competence for an appraiser was membership in and designation by one of the national appraisal associations. These associations continue to provide education and recognition of professional accomplishment for appraisers.

The appraisal organizations who jointly formed the Appraisal Foundation in 1987 are:

American Institute of Real Estate Appraisers
American Society of Appraisers
American Society of Farm Managers and Rural Appraisers
International Association of Assessing Officers
International Right of Way Association
National Association of Independent Fee Appraisers
National Society of Real Estate Appraisers
Society of Real Estate Appraisers

The American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers have since joined to become the Appraisal Institute.

16 Appraising and Estimating Market Value

Snapshot Review

REAL ESTATE VALUE	<ul style="list-style-type: none">• present monetary worth of benefits arising from ownership, including: income, appreciation, use, tax benefits
Foundations of real estate value	<ul style="list-style-type: none">• anticipation, substitution, contribution, change, highest and best use, conformity, supply, demand, progression, regression, assemblage, subdivision, utility, transferability
Types of value	<ul style="list-style-type: none">• market, reproduction, replacement, salvage, plottage, assessed, condemned, depreciated, reversionary, appraised, rental, leasehold, insured, book, mortgage
APPRAISING MARKET VALUE	
Market value	<ul style="list-style-type: none">• price willing buyer and seller would agree on given: cash transaction, exposure, information, no pressure, arm's length, marketable title, no hidden influences
The appraisal and its uses	<ul style="list-style-type: none">• a professional's opinion of value, supported by data, regulated, following professional standards; used in real estate decision-making
Steps in the appraisal process	<ul style="list-style-type: none">• define purpose, collect and analyze data, identify highest and best use, estimate land value, apply basic appraisal approaches, reconcile, compile report
SALES COMPARISON APPROACH	<ul style="list-style-type: none">• most commonly used; relies on principles of substitution and contribution
Steps in the approach	<ul style="list-style-type: none">• compare sale prices, adjust comparables to account for differences with subject
Identifying comparables	<ul style="list-style-type: none">• must be physically similar, in subject's vicinity, recently sold in arm's length sale
Adjusting comparables	<ul style="list-style-type: none">• deduct from comp if better than subject; add to comp if worse than subject
Weighting adjustments	<ul style="list-style-type: none">• best indicator has fewest and smallest adjustments, least net adjustment from the sale price
Broker's comparative market analysis	<ul style="list-style-type: none">• abridged sales comparison approach by brokers and agents to find a price range
COST APPROACH	<ul style="list-style-type: none">• most often used for recently built properties and special-purpose buildings
Types of cost appraised	<ul style="list-style-type: none">• reproduction: precise duplicate; replacement: functional equivalent
Depreciation	<ul style="list-style-type: none">• loss of value from deterioration, or functional or economic obsolescence
Steps in the approach	<ul style="list-style-type: none">• land value plus depreciated reproduction or replacement cost of improvements
INCOME APPROACH	<ul style="list-style-type: none">• used for income properties and in a rental market with available rental data
Steps in the approach	<ul style="list-style-type: none">• value = NOI divided by the capitalization rate
GRM and GIM approach	<ul style="list-style-type: none">• GRM: price divided by monthly rent; value: GRM times monthly rent; GIM: price divided by gross annual income; value: GIM times annual income
REGULATION OF APPRAISAL	
Licensure	<ul style="list-style-type: none">• state-licensed or -certified per FIRREA/USPAP for federally-related appraisals
Professional standards	<ul style="list-style-type: none">• USPAP establishes appraisal standards, guidelines and provisions
Professional associations and designations	<ul style="list-style-type: none">• founders of Appraisal Foundation offer education and professional designations