The Three Approaches to Value

The appraiser considers three approaches to develop indications of value. These are:
- ✓ Cost approach;
- ✓ Sales comparison (market) approach; and
- ✓ Income approach.

All three approaches are used to arrive at an indication of value. The three indications of value are then reconciled into one final conclusion of market value.

The appraiser must:

- ❖ Understand the basics involved in each approach;
- ❖ Have the ability to recognize pertinent data; and
- ❖ The skill to select the proper method and apply it to the specific problem involved.

County valuation systems use a combination of the cost and sales comparison approaches to arrive at RMV. This combined process is called the market-related cost approach and is primarily used when valuing residential property.

The Valuation Process

The valuation process is a step-by-step approach that leads the appraiser to a defendable and supportable value conclusion.
The valuation process involves:
- ❖ Identification of the property to be appraised;
- ❖ Data collection;
- ❖ General data,
- ❖ Social,
- ❖ Economic,
- ❖ Governmental, and
- ❖ Environmental.
- ❖ Specific data,
- ❖ Sales verification, and
- ❖ Property characteristics.
- ❖ Data analysis, and highest and best use conclusion;
- ❖ Estimating value by the three approaches;
- ❖ Reconciliation of the three approaches to value;
- ❖ Final estimate of value.

All elements of the appraisal process are involved in any appraisal that estimates market value.

Cost Approach to Value

The cost approach can be used to appraise all types of improved property. It is the most reliable approach for valuing unique properties. The cost approach provides a value indication that is the sum of the estimated land value, plus the depreciated cost of the building and other improvements.

The total cost of constructing a new building today frequently sets the upper limit of value, assuming the building is the highest and best use for the land. The cost approach produces a reliable indication of market value when a sound building replacement or reproduction cost estimate is coupled with appropriate accrued depreciation estimates.

The principle of substitution is the basis for the cost approach to value. A person will pay no more for a building than the cost of constructing an equally desirable substitute, assuming no unusual delay. Equally desirable substitute means the substitute need not be an exact duplicate, but contains similar utility and amenities as the existing structure. This provides the rationale for developing the replacement cost of the subject building rather than the reproduction cost.

Replacement cost is the cost of constructing, using current construction methods and materials, a substitute structure equal to the existing structure in quality and utility. Replacement cost is generally used for mass appraisal purposes. It provides expediency and a reliable indication of the cost for most structures. The replacement cost method is the cornerstone of residential mass appraisal.

The replacement cost includes, but is not limited to, direct and indirect costs and entrepreneurial profit.

Reproduction cost is the cost of constructing, as closely as possible, an exact replica of the existing structure.

Direct costs are expenditures for labor, utilities, equipment, the materials used to construct the improvement, and the contractor's profit and overhead.

Indirect costs are expenditures for items other than labor and materials such as financing, interest on construction loans, taxes and insurance during construction, marketing, sales and lease-up costs, plans, and specifications.

Entrepreneurial profit is a market-derived figure that represents the amount an entrepreneur expects to receive in compensation for his or her risk and expertise associated with development. This is the difference between the total cost of development of the property and its market value after completion.

Methods of Cost Estimating
- ❖ Cost estimating uses three methods:
- ❖ Comparative (unit of area or volume);
- ❖ Quantity survey;
- ❖ Unit-in-place.

Of the three, the comparative or unit of area method, which uses the square foot area as a base, is the most efficient method for the mass appraisal system. The other two methods of estimating are used primarily to produce an estimate of the reproduction cost of a building.

Comparative Method
The comparative method assumes there are numerous similar buildings that can be grouped by design, type, and quality of construction. By developing average unit costs from known construction costs of new buildings in each group, replacement cost factors can be developed that will apply to the buildings in that group or class.

Quantity Survey
Contractors use the quantity survey method. It includes the complete cost itemization of labor, materials, overhead, and profit necessary to the construction of a building. Because of the large amount of detail work and time involved, appraisers seldom use this method.

Unit-in-Place
The unit-in-place method is a modification of the quantity survey method. Cost of labor, materials, overhead, and profit are combined into a unit cost for each portion of the building. Cost per square foot for roofs and walls, and linear foot costs of foundation walls are examples of the unit-in-place method. This method helps the appraiser compute the cost of a building when the comparative method is not practical.

Cost Approach Process

To develop an indication of value by the cost approach, first value the land as if vacant. Land value is determined by comparing sales of similar vacant land in the area where the subject is located.

The second step is to determine the cost of on-site development (OSD). OSD includes excavation, grading, backfill, gravel drives, and water and sewage disposal systems.

The third step is to estimate replacement or reproduction cost new of the improvements.

The fourth step is to deduct the total accrued depreciation from all causes to arrive at the present value for the improvements. This is called the depreciated replacement or reproduction cost (DRC). Finally, add the land value to the depreciated cost of the improvement for a total indicated value using the cost approach.

Accrued Depreciation
Accrued depreciation is the difference between the cost new (replacement or reproduction) and the present value of an improvement. It measures the total loss in value from all causes that have occurred as of the date of appraisal.

Depreciation is divided into three categories:

- ❖ Physical deterioration;
- ❖ Functional obsolescence; and
- ❖ External obsolescence.

Physical deterioration and functional obsolescence can be curable or incurable. External obsolescence is generally considered incurable.

Physical Deterioration
Physical deterioration is the wear and tear or breaking down of the physical structure. It may include decay, dry rot, damage by the elements, or vandalism. Physical deterioration is categorized as curable or incurable.

In analyzing physical deterioration, the appraiser must distinguish among the following:

- ❖ **Deferred maintenance.** These are curable items in need of immediate repair and can be either short- or long-lived.
- ❖ **Short-lived items.** These are items that can be replaced later. Short-lived items include roofing, paint, floor covering, water heater, etc.
- ❖ **Long-lived items.** These are items expected to last for the remaining economic life of the building. Long-lived items include framing, wiring, plumbing, etc.

Curable Physical Deterioration
Physical deterioration is measured by the cost to cure the problem. Physical deterioration is curable if the cost to repair or replace the item is equal to or less than the value added to the property by its replacement. This may include items such as a leaky roof, a broken window, or any item needing repair or replacement as of the appraisal date.

Incurable Physical Deterioration
Physical deterioration is incurable if the cost to repair or replace the item is greater than the value added by the repair or replacement. Incurable physical deterioration includes all basic structural or long-lived items, as well as short-lived items that are still serviceable.

Functional Obsolescence
This is the loss in value due to superadequacy or deficiency within the property.

Superadequacy describes a component or system that exceeds market requirements and adds less value than the cost of the component. Examples of superadequacy include:
- ❖ Over-sized heating system;
- ❖ Excess plumbing features;
- ❖ Over-sized structural supports (rafters, studs); and
- ❖ Any other items in excess of reasonable requirements.

Deficiency or **inadequacy** describes a component or system that is substandard or lacking. Examples include:
- ❖ Components smaller than normally expected;
- ❖ Poor design (lack of closet space, ceilings too high or too low, poor room arrangement); and
- ❖ An architectural style that is not compatible with other buildings in the area.

Some functional obsolescence may be found in older structures as construction methods, materials, and market preferences change. Obsolescence can result from poor planning or design.

As in physical deterioration, functional obsolescence is either curable or incurable, depending on whether the cost to cure is economically justified as of the appraisal date.

Curable Functional Obsolescence
Functional obsolescence is considered curable when the increase in value gained by correcting the problem exceeds the cost to cure it.

Curable functional obsolescence, usually a deficiency, is measured by the excess cost to cure. To determine the excess cost to cure, compare the difference in cost between adding the item to an existing structure or installing the item as part of a new structure, as of the appraisal date.

The excess cost to cure usually reflects the additional labor costs for installing the item in an existing structure. The difference is the loss in value.

Example: A residential dwelling has only one bath in a market where two baths are expected. If the cost of building a second bath in the original structure would have been $8,000 and the cost of adding the bath in new construction would be $5,000, the excess cost to cure is $3,000. ($8,000 − $5,000 = $3,000).

Incurable Functional Obsolescence
Functional obsolescence is considered incurable when it is possible and reasonable to cure an item but there is no economic advantage in doing so. Incurable functional obsolescence is a condition that decreases the utility of the property and is not economically feasible to cure as of the appraisal date. For this reason, most superadequacies are considered incurable.

Incurable functional obsolescence is seen in poor room arrangement or a design feature that cannot be corrected without excessive cost. Estimate the loss in value from these causes by the loss in rent or by comparing to a sold property that suffers from similar conditions.

External Obsolescence
This is a loss in value resulting from conditions outside the property. There are many causes of external obsolescence such as:
   ❖ Deterioration of a neighborhood due to social changes;
   ❖ Oversupply of housing;
   ❖ Changing traffic patterns;
   ❖ High unemployment;
   ❖ Proximity of dwelling to sewage treatment plant; and
   ❖ Any other condition outside the property that causes a loss in value.

External obsolescence can be temporary or permanent but is always considered incurable.

External obsolescence is measured by capitalizing the rental loss or comparing the subject to sales of comparable properties without the obsolescence.

External obsolescence can be allocated between land and improvements by using a land-to building ratio derived through market area analysis.

Sales Comparison (Market) Approach

In the sales comparison, or market, approach, value is estimated by comparing the subject property to similar properties that have sold. The sales comparison approach often produces the most reliable evidence of RMV because sales are based on the actions of buyers and sellers in the marketplace. This approach assumes the typical buyer will compare sales and asking prices to make the best possible purchase. Like the cost approach, the sales comparison approach is based on the principle of substitution. This principle presumes that a prudent buyer will pay no more for a property than the purchase price of a similar and equally desirable property.

Sales Data
Proper collection and analysis of sales data, along with selection of appropriate units of comparison, is critical to applying the sales comparison approach. Sales data must be adjusted based on market conditions, then applied to the subject of the appraisal.

Gather sales from recorded instruments and analyze them to confirm the conditions of sale and the validity of the sales price. Do not use a sale that is not representative of the market.

Verify sales by personal contact or letter to ensure the most reliable sales. Verification may reveal whether the sale involved personal property, an exchange, atypical financing, or unusual motivation on the part of the buyer or seller. When possible, sales should be physically inspected to determine the condition of the property at the time of sale.

Market Transactions
Gather the following information about a sale to help determine if the transaction can be used in the sales study:

❖ Date of transfer;
   When sufficient sales data exist, use only the most recent sales for comparison purposes. In the absence of sufficient recent sales, older sales may be used as value indicators if they are correctly adjusted for time.

❖ Type of conveyance;
   The type of conveyance and the rights conveyed indicate the reliability of the sales information. Property transfers conveyed through instruments such as quitclaim deeds, bargain and sale deeds, and sheriff's deeds may bear little relationship to market value.

❖ Condition of sale;
   Transfers between relatives or business partners, foreclosures, estate sales, governmental transactions, and transfers that involve undue compulsion may indicate the sale does not represent RMV.

❖ Consideration;
   A sale involving an exchange, personal property, or an assumption of a mortgage must be investigated to determine whether the consideration truly reflects RMV.

❖ Property characteristics and inventory;
   Confirm and verify the property's inventory and condition at the time of sale. The property may have changed after the sale and the differences must be noted.

Units and Elements of Comparison
Units of comparison are the components a property may be divided into for purposes of comparing one property to another. Converting the sale price to a price per unit makes it easier to compare and adjust properties that compete in the same market. To determine the appropriate unit(s) of comparison, note the typical unit recognized by the market for a particular property type. Sales analysis and direct sales confirmation is used to accomplish this.

Some units most commonly encountered are:

- ❖ Square footage;
- ❖ Front footage;
- ❖ Number of apartment/motel units;
- ❖ Number of bedrooms/baths;
- ❖ Number of acres; and
- ❖ Customer capacity.

Analyze and adjust sold properties to ensure the unit value derived from the sale truly reflects land and/or buildings only.

Income multipliers and capitalization rates are not adjusted in the sales comparison analysis since rents and sale prices tend to move in relative tandem. The appraiser should, however, analyze the variances in income among the sale properties.

Elements of comparison are the characteristics of properties and transactions that cause the prices of real estate to vary. Elements of comparison include:

- ❖ Location;
- ❖ Date of sale;
- ❖ Design, age, and quality of construction;
- ❖ Improvement size;
- ❖ Amenities (special-purpose rooms, swimming pools, garages, and parking);
- ❖ Condition (maintenance, remodeling, and additions);
- ❖ Land size;
- ❖ Site amenities (view, waterfront, golf course, etc.);
- ❖ Personal property items (furnishings, equipment, and inventory); and
- ❖ Business considerations (operating expenses, income, lease provisions, management, government restrictions, business licenses, and intangibles).

Sales Comparison

After you determine that the sales are valid, compare the sold properties to the subject property. Comparisons can be made on a total property basis (one total property to another) or by any unit(s) common to the type of property involved. Differences in elements of comparison are reflected in the adjustment process.

Select sufficient comparable sales to determine the subject's market value. Sold properties that require excessive adjustments may yield an unreliable value.

Follow these five steps in the comparison process:
1. Research and select sales of comparable properties.
2. Document and confirm sales data.
3. Select relevant units of comparison.
4. Compare sale properties to the subject and make appropriate adjustments.
5. Reconcile value indications and estimate value of subject property.

Always adjust the comparable sales to make them equivalent to the subject property. If the comparable is superior to the subject, apply a minus adjustment to the comparable. If the comparable property is inferior to the subject, apply a plus adjustment to the comparable property.

Sales Comparison Grid
Sales comparison grids are useful tools for analyzing the differences between the subject property and comparable properties.

Analyze the sales comparison adjustments to select the best indication of value for the subject. This analysis includes a review of each comparable property and the amount of adjustment needed to make the sale property comparable to the subject property. Comparable properties needing the least adjustments are the most like the subject property and are usually given the most weight in the value selection.

The Uniform Residential Appraisal Report (URAR) format illustrates plus (added) and minus (subtracted) adjustments. This type of grid may be altered to fit any type of property.

Gross Income Multipliers
Many people associate a gross income multiplier (GIM) and a gross rent multiplier (GRM) with the market approach to value. The use of GIMs is also part of the income approach to value because it is a capitalization technique.

Income Approach
Income-producing properties are appraised using all three approaches to value. However, since income property is usually bought and sold on its ability to generate and maintain an income stream, it is typical to place more weight on the income approach.

One basic principle in estimating the value of income property is the anticipation of future benefits. The income approach, also called income capitalization, converts future benefits of property ownership into an indication of present worth (market value). Present worth, which is the result of capitalizing net income, is the amount a prudent investor would be willing to pay now for the right to receive the future income stream.

Steps in the Income Approach to Value
The steps used to value property by the income approach are:

- ❖ Estimate potential gross income.
- ❖ Deduct vacancy and collection loss.
- ❖ Add miscellaneous income to arrive at effective gross income (EGI).
- ❖ Estimate expenses before discount, recapture, and taxes.
- ❖ Deduct expenses from EGI to determine the net operating income (NOI).
- ❖ Select the proper capitalization rate.
- ❖ Determine the appropriate capitalization procedure to be used.
- ❖ Capitalize the net income into an indication of present value.

The calculation for the capitalization process is:

Potential Gross Income/Rent
– Vacancy and Collection Loss
<u>+ Miscellaneous Income</u>
Effective Gross Income

Effective Gross Income
– Operating Expenses
<u>Reserves for Replacement</u>
Net Operating Income (before discount, recapture, and taxes)

Net Operating Income
÷ Capitalization Rate
Value

Step 1—Estimate Potential Gross Income

To estimate gross income, forecast the income a typical investor expects to receive from the property from the present date forward. Past income may be a guide to the expected future income, but you must compare and analyze the income in relation to other indicators, such as rents of comparable properties and consideration of probable future trends.

Potential gross income is the market rent that would be collected if the property were fully occupied. In estimating potential gross income, appraisers distinguish between market rent (or economic rent) and contract rent.

Market rent is the prevailing rent received for comparable properties. Use market rent to calculate RMV by the income approach. Market rent should be the amount that would result from a lease negotiated on the open market between a willing lessor and a willing lessee, both knowledgeable and free of influence from outside sources.

Contract rent is the actual amount agreed to by a landlord and tenant. It may or may not be the same as market rent, depending on various factors. Contract rents should be **analyzed** to determine if the lease amount is typical for the type of property and if the lease agreement provides for any consideration other than the lease. Factors to consider include:
   ❖ The date the rent was negotiated;
   ❖ The presence of market rent escalator adjustments in the lease; and
   ❖ Any personal or business relationship between the lessor and lessee.

Contract rents should be compared to market rents of properties that are comparable to the subject.

Step 2—Deduct for Vacancy and Collection Loss

Vacancy and collection loss is an allowance for reductions in potential income due to vacancies, tenant turnover, and nonpayment of rents. The losses expected from vacancies and collection loss are subtracted from potential gross income. Vacancy and collection loss should be allowed on all properties because even the most stable property will experience some loss of income over time.

Vacancy is the loss in potential income attributed to unoccupied periods. This occurs during periods of tenant turnover, building renovation and refurbishment, and sluggish economic conditions. It is expressed as a percentage of potential gross income. Vacancy rates will vary depending on the age, condition, and quality of the building as well as the location of the property. As buildings age, vacancy rates generally increase because of physical deterioration and functional and external obsolescence.

Collection loss is the loss in potential income from nonpayment of rent. It is also expressed as a percentage of potential gross income. Collection loss is calculated by dividing the uncollected rent by the total rent billed.

Allowances for vacancy and collection loss are based on typical management because these rates can vary depending on management style. A well-managed property may experience lower than typical loss. A poorly managed property may experience higher than typical loss. Rates may change under new ownership and are not attributable to the property.

Step 3—Add Miscellaneous Income

Miscellaneous income may come from several sources such as parking, vending machines, and laundry services.

EGI is the amount remaining after allowances for vacancy and collection loss are subtracted from potential gross rent and miscellaneous income is added.

Step 4—Estimate Expenses Before Discount, Recapture, and Taxes

NOI is estimated by subtracting operating expenses and reserves for replacement from EGI. Determine operating expenses and replacement reserves by reviewing the historical expenses for the property, usually for three or more years, and by estimating the expenses that the typical buyer will expect the property to incur in the future. NOI is useful for comparing one property to another.

It is important to consider lease terms when estimating expenses. Leases are usually referred to as **net** or **gross**, although many are not completely one or the other.
With a **net** lease, the tenant pays all taxes and operating expenses. The owner is not involved with property operations. The terms triple-net lease and net-net-net lease are synonymous with the pure net lease.

In a **gross** lease, the landlord pays all taxes and operating expenses.
Operating expenses are the costs necessary to maintain the property so it can continue to produce rental income. Traditionally, a distinction has been made between fixed and variable operating expenses. Now, they are generally grouped together under the single heading of operating expenses.

The income and expense information you receive from a property owner is usually in a format prepared for purposes other than property taxation. Typically, it leaves out some appropriate expenses for estimating property value, such as reserves for replacement.

The information is likely to include some expenses that are not appropriate for appraisal purposes. Some expenses reported by the property owner are dealt with in other ways by the appraiser. To avoid duplication, exclude them from the operating statement.

Following are frequently reported expenses to exclude for appraisal purposes.

Property taxes are a legitimate property expense, however, for ad valorem tax purposes, property taxes should not be included as an operating expense. Property tax impact as an expense is accounted for by adding an effective tax rate to the capitalization rate.

Depreciation is considered in the income approach by the recapture component of the capitalization rate.

Income taxes are not allowed in the income approach because the tax is based on the personal income of the individual and not on the income produced by the property.

Debt service is the amount of payment made toward principal and interest on the loan for the purchase of the property. It is an expense of the buyer, not of the real estate. Properties owned free and clear won't have debt service.

Capital improvements are long-lasting additions to the property that usually increase income, total value, or economic life but are not considered operating expenses. These may be items such as building additions or property renovations.

Operating expenses typically include:
- ❖ Insurance;
- ❖ Management;
- ❖ Salaries;
- ❖ Utilities;
- ❖ Supplies and materials;
- ❖ Repairs and maintenance; and
- ❖ Reserves for replacement.

Reserves for replacement are funds for replacing short-lived items that will not last for the remaining economic life of a building. Replacing these items usually requires spending large lump sums. A portion of the expected replacement cost can be set aside each year to stabilize expenses. An appraiser provides for the reserves for replacement even if an owner has not done so. Stabilizing income and expenses is necessary for a proper economic indication of the property. Three or more years of the property's stabilized income and expenses are standard for analysis. It is important to review the net income statement carefully to ensure the result reflects the property's potential income. Check the repairs and maintenance line items to make sure they do not duplicate reserves for replacement. Appeal disputes can occur due to misunderstanding of proper appraisal methodology.

Reserves for replacement items include:
- ❖ Roof and floor covering;
- ❖ HVAC system;
- ❖ Water heaters;
- ❖ Painting and decorating; and
- ❖ Kitchen appliances.

Calculate the annual monetary charges for any specific item by:
- ❖ Estimating the economic life of the item;
- ❖ Estimating the replacement cost new (RCN); and
- ❖ Dividing the RCN by the economic life.

To express the cost as a percentage, replace the RCN figure with 100 percent. Display either figure as:

RCN ÷ Economic Life = $ per Year
100 ÷ Economic Life = Percentage per Year

Step 5—Deduct Expenses from Effective Gross Income to Determine Net Operating Income

After estimating all operating expenses and appropriate reserves for replacements, reconstruct the income and expense statement. Subtract adjusted expenses from the EGI to derive NOI.

Example—Reconstruction of Reported Expenses
Property Owner's Expenses, as Reported Appraiser's Reconstructed Expenses:
EGI $47,250 EGI $47,250
Operating expenses:

Insurance 2,400	Insurance	2,400
Taxes 9,000	Taxes (in cap rate)	0
Management 1,800	Management 1,800	
Utilities—tenant pays all 375	Utilities—tenant pays all	375
Debt service 13,000	Debt service (personal)	0
Repairs and maintenance 2,250	Repairs and maintenance	2,250
Miscellaneous 750	Miscellaneous	750
Total property expenses – $29,575		
Net income $17,675	**Reserves for replacement:**	
	Roof cover (prorated)	300
	HVAC (prorated)	340
	Total property expenses – 8,215	
	Net income $39,035	

Difference between reported
and reconstructed expenses: $21,360
Percentage difference: 54.7%
This illustrates how a NOI schedule prepared by a property owner, if accepted at face value by an appraiser, would distort NOI by 54.7 percent.

Step 6—Capitalization: Selecting the Proper Capitalization Rate

Capitalization is the process of converting anticipated future income into an indication of present value. The **principle of anticipation** states that present value is determined by future benefits. Discounting is the process of adjusting the value of future dollars to present worth. The easiest method is to use annual income and annual rates for discounting future benefits. This is represented by the Income–Rate–Value (**IRV**) formula:

$$\text{Value} = \text{Income} \div \text{Rate, or } V = I \div R$$

$$\text{Rate} = \text{Income} \div \text{Value, or } R = I \div V$$

$$\text{Income} = \text{Rate} \times \text{Value, or } I = R \times V$$

The IRV formula is the general model used as the basis for all applications of the income approach. To use the model to estimate value, estimate the annual NOI expected for the property and the appropriate capitalization rate.

Capitalization Rate

The capitalization rate converts NOI into an estimate of value. It reflects the relationship between income and value. The capitalization rate is made up of several components:

- a discount rate;
- a recapture rate; and
- an effective tax rate.

The capitalization rate used in real estate appraisal includes both a return **of** and a return **on** investment.

Return of the investment, called recapture, is recovery of invested capital.

Return on the investment, called the discount rate, is compensation to an investor for the risk,

time value of money, nonliquidity, and other factors associated with investment. A prudent investor looks to the future income stream, as well as potential resale, to provide this return.

Discount Rate is the required rate of return **on** investment necessary to attract investors. The discount rate contains an **interest rate**, which is a required rate of return on debt capital, and a **yield rate,** a required rate of return on equity.

The discount rate takes into account four aspects of investment: safety, risk, liquidity, and management cost.

- Safe rate—the rate available for long-term deposits and other low-risk investments.
- Risk rate—an adjustment for a property's perceived level of risk.
- Non-liquidity rate—a rate based on how readily assets can be converted to cash.
- Investment management rate—an adjustment for the level of investment management skill required.

The rates for risk, non-liquidity, and investment management are added to the safe rate to make up the discount rate.

The discount rate of properties purchased with a high expectation of value appreciation will sometimes be lower than the safe rate. Since investors expect to make a significant amount of money from resale of the property, it isn't necessary for the annual rent to be the source of all profit. Because a capitalization rate is nothing more than net annual rent expressed as a percentage of the total property value, a lower income level implies a lower capitalization rate.

Conversely, a property expected to lose value over the term of ownership requires a higher level of annual income to deliver the desired level of profit to the investor. It is assumed the discount rate required by property investors includes provisions for any expected appreciation. Therefore, the interest rate applicable to any particular type of property will frequently be lower than commercial bank investment rates.

Recapture Rate provides for the recovery of capital on an annual basis, also called the rate of return **of** investment. Land, treated as non-depreciating, is not included in recapture rates. The return of investment in a property can be accomplished in one of two ways or a combination of both. One is a return of the investment through payment from the income stream. The other is a return of the investment (all or part) at the end of the term of ownership by resale of the property.

Effective Tax Rate is an allowance for property taxes included in the capitalization rate for ad valorem appraisal purposes when the typical lease is a **gross** lease. If the typical lease for the property is a **net** lease, the tenant pays the taxes so they are not a consideration. To use property taxes as an expense item assumes the value of the property is known, and thereby discredits the entire approach.

The rate used for taxes in the capitalization rate is expressed in decimal form. In Oregon, taxes are not directly related to RMV, therefore you must calculate an **effective** tax rate. Do not confuse the effective tax rate with the **actual** tax rate used to calculate taxes. To calculate an effective tax rate, divide the tax rate for the taxing district where the property is located by 1,000, then multiply that figure by the changed property ratio (CPR) for the subject's property class.

Example: To calculate a tax rate of $15 per $1,000 of assessed value:

15 ÷ 1,000 = .015 · .80 (CPR) = .012 effective tax rate

The CPR may vary by property class; thus the effective tax rate will also vary. When assessed value and RMV are equal, the tax rate and effective tax rate will be the same.

Step 7—Capitalization: Determining the Appropriate Procedure

Once you have estimated annual NOI before discount, recapture, and taxes, you can use several methods and techniques to capitalize that income into an estimate of market value.

Proper rate selection is necessary to correctly estimate value. Small variations in the capitalization rate will result in substantial differences in value estimates. For example:

$39,035 (NOI) ÷ 0.10 (capitalization rate) = $390,350
$39,035 (NOI) ÷ 0.11 (capitalization rate) = $354,864

One percentage point in the cap rate changed the value $35,486, or 10 percent.

Direct Capitalization Method

In this method, net income is capitalized into an indication of market value using an overall rate developed from the market with no prediction being made for the behavior of income or for the period of recapture. An overall rate is the annual NOI divided by the sale price. Capitalization of the income stream is accomplished by dividing the estimated income by the appropriate rate.

You can also calculate it by multiplying the income by an income factor.
In the following example of direct capitalization using an overall rate, the income-expense ratios, remaining economic lives, and land-to-building ratios of the sale are comparable to those of the subject property. The sale property is located in the same taxing district as the subject and has the same effective tax rate. **Note:** If it were not located in the same taxing district, adjustments can be made so the comparison is valid.

Selection of Capitalization Technique

There are three techniques for processing income into an indication of value:
- Building residual;
- Land residual; and
- Property residual.

To calculate a residual technique, satisfy the income requirements for the known portions of the property, then capitalize the remaining income into a value estimate for the unknown portion. Which technique you use will depend on the information available and the conditions existing on the property.

Building Residual Technique

Use the building residual technique if you have sufficient information to develop an estimate of land value and the building is older, making cost and depreciation estimates difficult to support. To use the building residual technique, you must know:

- ❖ Net income;
- ❖ Land value;
- ❖ Proper discount rate;
- ❖ Proper recapture rate; and
- ❖ Effective tax rate.

Example
(Values are rounded)

Net income before discount, recapture, and taxes	$30,700
Income to land	- 7,350
Income attributable to building	$23,350

Capitalization rate:

Discount rate	0.09
Recapture (33-year life) (1 ∕ 33)	0.03
Effective tax rate	0.015
Total	0.135
Building value ($23,350 ÷ 0.135)	$173,000
Plus land value ($7,350 ÷ 0.105)	+ 70,000
Property value	$243,000

Note: Remember, the capitalization rate for land does not include a recapture rate.

Land Residual Technique

Use the land residual technique when the building value is known and the land value is unknown. This technique may be used when the building is new and the land is improved to its highest and best use. Use the same information for the building residual technique as for the land residual technique, except replace the building value with the land value.

Property Residual Technique

Use the property residual technique when neither land nor building value can be accurately estimated. This technique provides an estimate of total property value without allocation of land and improvement components. The process is similar to direct capitalization with an overall rate.

The major difference is that it attempts to measure the present worth of two sources of income, as compared to one income stream in direct capitalization. First, use a capitalization rate to value the annual rent expected during ownership. Second, estimate the value of the property at the end of the ownership period, called the reversion, then discount it back to its present worth.

The reversion value is added to the present worth of the income stream for an indication of total property value.

Because of the difficulties associated with estimating a property's value at the end of ownership, this technique is seldom used.

For mass appraisal purposes, you will find that the techniques that most closely follow the thought processes of those who are active in the market will be the easiest techniques to explain and justify when discussing appraisals with property owners. If buyers in the market area make their investment decisions by following a process similar to the property residual technique, then the capitalization process should also reflect this process. No matter which capitalization procedure you select, the closer it reflects the thinking of buyers and sellers in the market area, the more persuasive the value conclusion will be.

Gross Income Multipliers

A gross income multiplier (GIM) is a factor calculated by dividing the sale price of a property by its gross income. Gross income is normally defined as the annual income prior to any deduction for services or expenses. Using a GIM assumes that any differences between the subject and

comparables are reflected in the rents of each property. If the sales used to extract a GIM from the market are valid and the properties are comparable, the resulting factor should produce a reliable indicator of value for the subject. Using a GIM to arrive at an estimate of value is one form of direct capitalization.

When the GIM is used to capitalize income, the relationship between **I** (income) and **V** (value) is expressed as **F**, (factor or multiplier). A factor is the reciprocal of a rate, or $F = I \div R$. Using this basic formula, the GIM can be derived thus: Value = Income $\div$ Rate, or $V = I \div R$

After extracting a GIM from the market, the gross income of the subject for a single period is multiplied by a factor to produce an estimate of value. The multiplying factor is called a gross rent multiplier (GRM) if the period is one month. It's called a GIM if the period is one year. Generally, monthly rents are used for single-family residences and annual incomes are used for other income-producing properties.

To properly develop a GIM study, use all available comparable sales. Properties from which a GIM is developed, and properties to which a GIM is applied, must be similar in effective age, quality of construction, and use. For example, it would not be appropriate to apply a GIM to a 20-unit property that was developed from sales of 4–to 6–unit properties.

When developing a GIM, give careful consideration to:
Gross income-to-expense ratio—The gross income-to-value relationship may be different for similar properties depending on the expenses involved in producing the income. The gross income for an office building where rent includes heat, lights, water, and janitorial service will be substantially greater than the gross income from an identical building where these services are not furnished. If you develop a GIM from a sale in which these services are furnished and apply it to the income of a building that does not include the same services, you will not get an accurate indication of value.

Land-to-building ratio—A large land-to-building ratio may indicate that a sale property includes excess land. Such a sale may produce a higher than normal GIM.

Remaining economic life—A sale of a building with a short remaining economic life may produce a low GIM. Applying the low GIM to a building that has a longer life will indicate a value below market.

The following example of how to develop a gross income multiplier from a sold property includes an unusual amount of services. Typical service furnished for retail stores in the area is water only.

Retail store sales price:	$150,000
Rentable area:	10,000 sq. ft.
Gross income:	$ 22,500 ($2.25/sq. ft.)
Services furnished:	Heat, lights, water, janitorial
Comparable space rents for:	$ 2/sq. ft. with water only
Adjusted gross income:	$ 20,000
$150,000 $20,000 =	7.5 GIM

Convert gross income into an indication of value using the GIM developed in the previous example:

Gross income attributable to subject	$ 21,450
Indicated GIM	7.5
Value indication (7.5 · $21,450)	$161,000 (rounded)