

UNIT 11:

REAL ESTATE ECONOMICS AND VALUATION

Unit Eleven Learning Objectives: When the student has completed this unit he or she will be able to:

- Identify the key correlations between real estate supply, demand and prices and how market influences can affect their interaction.
- Summarize the essential determinants of value and the valuation laws underlying residential market valuation.
- Describe how the sales comparison approach to valuation works and how comparables form the basis for the estimate of value.
- Explain the income approach to value and the step-by-step process for deriving income property valuation estimates using the approach.

REAL ESTATE SUPPLY AND DEMAND

Supply

In real estate, supply is the amount of property available for sale or lease at any given time. The units of supply used to quantify the amount of property available differ for different categories of property. These supply units, by property type, are:

- residential real estate: dwelling units
- commercial and industrial real estate: square feet
- agricultural property: acreage

Factors influencing supply. In addition to the influences of demand, real estate supply responds to

- development costs, particularly labor
- availability of financing
- investment returns
- a community's master plan
- government police powers and regulation

Demand

Real estate demand is the amount of property buyers and tenants wish to acquire by purchase, lease or trade at any given time. Units of demand, by property classification, are:

- residential: households
- commercial and industrial: square feet
- agricultural: acreage

The unit of residential demand is the household, which is an individual or family who would occupy a dwelling unit. Residential demand can be further broken down into demand to lease versus buy, and demand for single family homes versus apartments.

Residential demand can be very difficult to quantify. One measure is the number of buyers employing agents to locate property. Another measure is the net population change in an area, plus families that attempted to move in but could not.

Factors affecting demand. The demand for particular types of real estate relates to the specific concerns of users. These concerns revolve around the components of value: desire, utility, scarcity, and purchasing power.

Residential users are concerned with:

- quality of life
- neighborhood quality
- convenience and access to services and other facilities
- dwelling amenities in relation to household size, lifestyle, and costs

Retail users are concerned with:

- sufficient trade area population and income
- the level of trade area competition
- sales volume per square foot of rented area
- consumer spending patterns
- growth patterns in the trade area

Office users are concerned with:

costs of occupancy to the business

- efficiency of the building and the suite in accommodating the business's functions
- accessibility by employees and suppliers
- matching building quality to the image and function of the business

Industrial users are concerned with:

- functionality
- the availability and proximity of the labor pool
- compliance with environmental regulations
- permissible zoning
- health and safety of the workers
- access to suppliers and distribution channels

Market influences on supply and demand

Numerous factors in a market influence the real estate cycle to speed up or slow down. These influences can be local or national, and from the public or private economic sector.

Local market influences. Since the real estate market is local by definition, local factors weigh heavily in local real estate market conditions. Among these are:

- cost of financing
- availability of developable land
- construction costs
- capacity of the municipality's infrastructure to handle growth
- governmental regulation and police powers
- changes in the economic base
- in- and out-migrations of major employers

National trends. Regional and national economic forces influence the local real estate market in the form of:

- changes in money supply
- inflation
- national economic cycles

In recent years international economic trends have increasingly influenced local real estate markets, particularly in border states, large metropolitan areas, and in markets where the economic base is tied to foreign trade. In these instances, currency fluctuations have significant impact on the local economy.

Governmental influences. Governments at every level exert significant influence over local real estate markets. The primary forms of government influence are:

- local zoning power
- local control and permitting of new development
- local taxing power
- federal influence on interest rates
- environmental legislation and regulations

A good example of government influence over the local real estate market is a city government's power to declare a moratorium on new construction, regardless of demand. Such officially declared stoppages may occur because of water or power shortages, insufficiency of thoroughfares, or incompatibility with the master plan

UNDERLYING DETERMINANTS OF VALUE

Price is not something of value in itself. It is only a number that quantifies value. The economic issue underlying the interplay of supply and demand is, how do trading parties arrive at the value of a product or service as indicated by the price?

The value of something is based on the answers to four questions:

- How much do I desire it?
- How useful is it?
- How scarce is it?
- Am I able to pay for it?

Desire

One determinant of value is how dear the item is to the purchaser. Assume a person is considering buying an air conditioner. Here, the question becomes "how much do I desire to be cool, dry, and comfortable?" To a person who lives in Florida, it is safe to say that air conditioning is more valuable than a heating system. It is also safe to say the opposite is true for residents of northern Alaska.

Utility

The second determinant of value is the product's ability to do the job, or utility. Can the air conditioner satisfy my need to stay cool? How cool does it make my house? Does it even work properly? Of course, I won't pay as much if it is old or ineffectual.

Scarcity

The third critical element of value is a product's availability in relation to demand. The air conditioner is quite valuable if there are only five units in the entire city and everyone is hot. On the other hand, the value of an air conditioner goes down if there are ten thousand units for sale in a 500-person market.

Affordability

The fourth component of value is the consumer's ability to pay for the item, or its affordability. If one cannot afford to buy the air conditioner, the value of the air conditioner is diminished, since it is financially out of reach. If all air conditioners are too expensive, consumers are forced to consider alternatives such as ceiling fans.

In the marketplace, the relative presence or absence of the four determinants of value is constantly changing due to supply and demand factors. Since price is a reflection of the total of all value factors at any time, changes in the underlying factors of value trigger changes in price.

PRINCIPLES OF VALUE

A number of economic forces interact in the marketplace to contribute to real estate value. Real estate professionals must consider these forces in estimating the value of a property either for a broker's opinion of value or for a full-blown appraisal. For residential properties, the primary principles of value are supply and demand (previously discussed), substitution and contribution. For income properties, the principle of anticipation comes into play.

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. This principle underlies the Competitive Market Analysis, or CMA – since buyer will pay similar amounts for similar properties, the analyst's first step is to identify similar properties and what they recently sold for.

Contribution

Contribution. The principle of contribution focuses on *the degree to which a particular improvement affects the 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.

Anticipation

The income benefits a buyer expects to derive from a property over a holding period largely determines 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. This amount will then complete the picture of the investor's return as a percent of the investment amount.

DEFINING 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.

Price vs. value

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.

Broker's opinion of value (BPO)

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. In addition, the BPO

generally uses only a limited form of one of the three appraisal approaches, namely the sales comparison approach. Finally, the opinion is not subject to regulation, nor does it follow any particular professional standards as promulgated by appraisal regulators.

THE SALES COMPARISON APPROACH

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

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

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.

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

To complete the analysis, the appraiser will consider three to six comparables. Preferably the chosen comps are as similar to each other as possible and have sold as recently as possible.

Adjusting comparables

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 effectively accounts for the comparable's value difference 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.

- **transaction characteristics**

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

Weighting comps and the final estimate

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. In other words, one must identify which comparable values are more indicative of the subject and which are less indicative.

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.

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.

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.

THE INCOME 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.

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.

Steps in the Income 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.

$$\begin{aligned}
 & \text{Scheduled rent} \\
 & + \text{ Other income } \\
 & = \text{ Potential gross income}
 \end{aligned}$$

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

$$\begin{aligned}
 & \text{Potential gross income} \\
 & - \text{ Vacancy \& credit losses } \\
 & = \text{ Effective gross income}
 \end{aligned}$$

The allowance for vacancy and credit loss is usually estimated as a percentage of potential gross income.

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

$$\begin{aligned}
 & \text{Effective gross income} \\
 & - \text{ Total operating expenses } \\
 & = \text{ Net operating income}
 \end{aligned}$$

Operating expenses include real estate taxes, hazard insurance, utilities, janitorial service, management, and repairs. Operating expenses do not include debt service, expenditures for capital improvements, or expenses not related to operation of the property.

Select and apply 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. This is similar to the interest rate on a CD. It is synonymous with investment yield. Once selected, the appraiser must apply it to net income to derive value. This is done by dividing the estimated net operating income for the subject by the selected capitalization rate

$$\begin{aligned}
 & \text{Net operating income} \\
 & \div \text{ Capitalization rate } \\
 & = \text{ Value estimate}
 \end{aligned}$$

INCOME APPROACH ILLUSTRATION

I. ESTIMATE POTENTIAL GROSS INCOME

| | |
|-------------------------------|--------------|
| Potential gross rental income | 192,000 |
| Plus: other income | <u>2,000</u> |
| Potential gross income | 194,000 |

II. ESTIMATE EFFECTIVE GROSS INCOME

| | |
|-------------------------------------|--------------|
| Less: vacancy and collection losses | <u>9,600</u> |
| Effective gross income | 184,400 |

III. ESTIMATE NET OPERATING INCOME

| | |
|------------------------|---------------|
| Operating expenses | |
| Real estate taxes | 32,000 |
| Insurance | 4,400 |
| Utilities | 12,000 |
| Repairs | 4,000 |
| Maintenance | 16,000 |
| Management | 12,000 |
| Reserves | 1,600 |
| Legal and accounting | <u>2,000</u> |
| Total expenses | 84,000 |
| Effective gross income | 184,400 |
| Less: total expenses | <u>84,000</u> |
| Net operating income | 100,400 |

Net operating income: \$100,400

÷ Capitalization rate: 10% or .10

= Value estimate: \$1,004,000

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