

Glossary



for Property Appraisal
and Assessment

Second Edition

INTERNATIONAL ASSOCIATION *of* ASSESSING OFFICERS

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About International Association of Assessing Officers

The International Association of Assessing Officers (IAAO) is a nonprofit, educational, and research association. It is a professional membership organization of government assessment officials and others interested in the administration of the property tax. IAAO was founded in 1934, and now has a membership of more than 7,000 members worldwide from governmental, business, and academic communities.

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Foreword

This most recent edition of the *Glossary for Property Appraisal and Assessment* reflects the changing technologies and needs that affect the assessment profession.

The original glossary, *Assessment Terminology*, was published in 1937, shortly after the founding of the National Association of Assessing Officers. In 1956, *Assessment Terminology* was revised and reissued. Originally published in 1997, the *Glossary for Property Appraisal and Assessment* was based on *Assessment Terminology* but had been expanded and updated. The publication was converted to an online resource from 2004 to 2013 that did not follow the traditional book format. This edition, has been converted back to the more traditional book format, but will remain a digital-only resource. Efforts have been made to expand the functionality of the book to allow printing of pages, adding annotations to personal copies and sharing definitions with colleagues.

Future plans for the glossary include making additional updates in 2014 and providing more frequent updates as terms are added or redefined.

Suggestions for glossary entries are encouraged and can be sent to:

Attn: Technical Standards Committee—Glossary

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Chris Bennett
Director of Publications

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Responsibility for the current glossary resides with the Technical Standards Committee. The committee has been reviewing glossary terms since 2006 and plans a major revision in 2014. The 2013 committee members are Bill Marchand, Chair, Alan Dornfest, AAS, Michael Prestridge, Mary Reavey, Douglas Warr, AAS, Dennis Deegear, Christopher Bennett, Staff Liaison. Thank you also to Barbara Simmons for her editorial expertise.

Preface

This glossary is a compilation of terms gathered from numerous resources, primarily newer IAAO technical standards and textbooks. Changes in technology and assessment practices have prompted the addition of many new terms in recent years. This digital edition is intended to be a living document that can be updated frequently as new definitions are introduced.

A primary intent of using the e-format is to allow the glossary to be downloadable to user devices where it can be accessed without a continuous Internet connection.

The downloaded version will allow notations and comments to be added directly in the user's copy. Other features such as the ability to share pages and print portions of the document are also enabled. IAAO and the Technical Standards Committee hope you find this new format useful.

Bill Marchand

Bill Marchand, 2013–2014 Chair
Technical Standards Committee

Numeric

4-3-2-1 Rule—An empirical rule that ascribes 40 percent of the value of a standard lot (see **lot, standard**) to the quarter of the lot fronting on the street, 30 percent to the next quarter, 20 percent to the third quarter, and 10 percent to the rear quarter. *Compare Harper rule; Hoffman rule; one-third, two-thirds rule.* Note: Lots with a depth greater than the standard lot cannot be valued in accordance with this rule as stated above. The rule is sometimes altered by omitting the word “standard.” It thereby becomes applicable to extra deep lots but produces inconsistent results as applied to lots of varying depths.

65/35 Rule—Rule states that the value of a triangular lot with its base on the facing street will be approximately 65 percent of that of a rectangular lot of the same frontage and depth. The value of the triangular lot with its apex on the facing street will be 35 percent of that of a rectangular lot of the same base and depth.

A

AAS—See **Assessment Administration Specialist**.

Abandonment—The relinquishing of all rights and interests in real property, including any fixtures, with no intention to reuse or reclaim.

Abatement—(1) An official reduction or elimination of one’s assessed valuation after completion of the original assessment. (2) An official reduction or elimination of one’s tax liability after completion of the tax roll.

Absolute Ownership—Ownership of all real property rights and interests in a real estate parcel. See **fee simple**.

Absolute Value—The value of a number or expression regardless of its sign. For example, 3 and 3 (minus 3) both have an absolute value of 3. The mathematical symbol for absolute value is one vertical bar on each side of the number in question, for example, |3|

Abstract—To reduce a legal description of a property to another form; also, to identify a property from its legal description.

Abstract of Title—An abstract is a complete summary of all recorded documents affecting the title to a property. These documents include all conveyances, such as deeds or wills, and all legal proceedings relating to ownership of the property. Abstracts are arranged to show the history of ownership, describe the land and improvements, and give the name(s) of past and present owner(s).

Abstraction Method—Method of land valuation in the absence of vacant land sales, whereby improvement values obtained from the cost model are subtracted from sale prices of improved parcels to yield residual land value estimates. *Also called **residual land technique**.*

Acceleration Clause—A condition in a mortgage note or loan contract that allows the lender to demand immediate repayment of the entire balance if the contract is breached or other repayment conditions occur.

Access Right—The right of egress from and ingress to a property from an existing highway or street. See **bundle of rights**.

Account—A record of a particular type of transaction expressed in money and kept in the books of original entry.

Accountancy—The theory and practice of accounting, its professional responsibilities, and generally associated activities.

Accounting Records—The formal journals and ledgers, vouchers, invoices, correspondence, contracts, and other sources or support for such records; books of account.

Accounting Valuation—The historical money amount attaching to any asset or expense, generally representing cost.

Accrued—The gain or loss due to all causes. See **depreciation, accrued**.

Accuracy—The closeness of a measurement, computation, or estimate to the true, exact, or accepted value. Accuracy also can be expressed as a range about the true value. See **precision** and **statistical accuracy**.

Acknowledgment—A formal declaration attesting to the validity of the declarer's signature, usually made before an authorized public official or a notary public. The signing is a free and voluntary act.

Acquisition Cost—The cost used in accounting to represent the purchase price of an asset. If installation and other associated costs are included, the term “total acquisition cost” should be used. See **assessment—acquisition based**.

Acre—A land measure equal to 43,560 square feet, or 160 square rods.

Acreage—Unsubdivided land that is customarily measured in terms of acres rather than front feet or square feet. See **property use category**.

Active System—A system having its own source of electromagnetic radiation (EMR) such as a radar or an ultraviolet blacklight.

Actual Age—The actual number of years that have elapsed since the completed construction of an improvement; also referred to as historical age or chronological age.

Ad Valorem—According to value.

Ad Valorem Tax—A tax levied in proportion to the value of the thing(s) being taxed. Exclusive of exemptions, use-value assessment provisions, and the like, the property tax is an ad valorem tax.

ADA—Americans with Disabilities Act (1990).

Adaptive Estimation Procedure (AEP)—A computerized, iterative, self-referential procedure using properties for which sale prices are known to produce a model that can be used to value properties for which sale prices are not known. *Also called **feedback***.

Addendum—A list or additional material added to a letter, document, contractual agreement, or the like.

Addition—(1) A term sometimes used to denote a subdivision. (2) An increase in the value of fixed assets due to the acquisition of a new property or the enlargement of an old one. *Compare **betterment***.

Additive Model—A model in which the dependent variable is estimated by multiplying each independent variable by its coefficient and adding each product to a constant.

Address—(1) A location, expressed in terms of a conventional spatial reference scheme, at which a property or person may be found. (2) In a computer file, a specific juncture of circuits in computer machinery at which information is stored in the form of magnetic polarities. (3) The name a programmer uses to refer to such a juncture. Note: For a file of human-readable information, one must establish rules about whether and how to record various relevant addresses, including the situs address, owner's address, and mortgagee's address.

Adjustments—Modifications in the reported value of a variable, such as sale price. For example, adjustments can be used to estimate market value in the sales comparison approach by modifications for differences between comparable and subject properties. Note: Adjustments are applied to the characteristics of the comparable properties in a particular sequence that depends on the method of adjustment selected.

Adverse Land Use—A land use that decreases the value of nearby properties, usually because the adverse use is incompatible with the uses of the neighboring properties. A garbage dump near a residential neighborhood is an example of adverse land use.

Adverse Possession—The exclusive occupation and continuous possession of (another's) real property under an evident claim of title or right.

AEP—See **adaptive estimation procedure**.

Aerial—Relating to the air or atmosphere, being applicable in a descriptive sense to anything in space above the ground and within the atmosphere.

Aerial Film—A specially designed roll film supplied in many lengths and widths to fit aerial cameras. Emulsion types include panchromatic, infrared, color, and color infrared.

Aerial Photograph—A photograph of a part of the earth's surface taken by an aircraft-supported camera.

Aerial Photograph, Vertical—An aerial photograph made with the optical axis of the camera approximately perpendicular to the earth's surface and with the film as nearly horizontal as is practicable.

Affidavit—A written form of an affirmed or sworn statement.

After-Tax Cash Flow—Before-tax cash flow less income tax liabilities.

Age—See **chronological age**; **economic life**; **effective age**; and **historical age**.

Age/Life Method—A method of estimating accrued depreciation founded on the premise that, in the aggregate, a neat mathematical function can be used to infer accrued depreciation from the age of a property and its economic life. Another term is “straight-line depreciation” (see **depreciation, accrued**; and **depreciation method, straight-line**).

Agents of Production—See **factors of production**.

Aggregate Mean—See **weighted mean**.

Agreement—A general term describing a common view of two or more people regarding the obligations and rights of each with regard to a specific subject.

Agricultural Property—Improved or unimproved land that is devoted to or available for the production of crops and/or other agricultural products, livestock, and agricultural support buildings.

Air Rights—The right to use space above real estate.

Airborne Scanner—A scanner designed for use on aircraft or spacecraft in which the forward motion of the vehicle provides coverage normal to the scan direction.

Algorithm—A computer-oriented, precisely defined set of steps that, if followed exactly, will produce a prespecified result, for example, the solution to a problem.

Alienation—The transfer of title from one person to another.

Alienation Clause—A type of acceleration clause that calls for a debt under a deed or mortgage to be due in its entirety upon transfer of ownership from the secured party.

Alley Influence—(1) The effect of accessibility or proximity to a side or rear alley on the value of a lot or parcel. (2) The increment of value resulting from accessibility or proximity to a side or rear alley.

Allocation—See **land ratio method**.

Allocation by Abstraction—A method of separating a whole property value into land and improvement components. The appraiser estimates replacement cost new, subtracts an appropriate amount for depreciation, and subtracts the remainder from the whole property value to estimate the land value.

Allocation by Ratio—A method of separating a whole property value into land and improvement components, in which the appraiser develops proportions of land and improvement values for comparable properties and applies those proportions to the subject's whole property value.

Allocation Method—A method used to value land, in the absence of vacant land sales, by using a typical ratio of land to improvement value. *Also called **land ratio method**.*

Altitude—(1) The distance of a location above a reference surface. The most usual surface is sea level. (2) Height of sensor platform above a specified datum, usually above mean sea level.

Amendment—A change correcting an error or altering part of an agreement without changing the principal idea.

Amenity—A feature of an improvement that enhances its suitability for its basic use. A fireplace in a single-family residence is an amenity, as is covered parking at an apartment complex. By definition, amenities always increase value.

Amnesty, Tax—An act of pardon of tax liability by a legislative body.

Amortize—The process of repaying a loan or recovering a capital investment by means of a series of scheduled payments; typically includes interest charges and principal repayment in each of the scheduled payments.

Analog—(1) The form of data display in which values are shown in graphic form, such as curves. (2) A form of computing in which values are represented by directly measurable quantities, such as voltages or resistances. Note: Analog computing methods contrast with digital methods, in which values are treated numerically.

Ancillary Data—Subsidiary data used to define the area of interest, for example, topographic, administrative, or geologic data. Ancillary data may be digitized and merged with the primary image data to facilitate analysis.

Annex—To join a smaller, subordinate property to a larger or more dominant property.

Annuity—(1) The right to receive money or its equivalent in (usually) fixed equal amounts and at regular intervals for a definite or indefinite term. (2) A level, increasing, or decreasing stream of scheduled and predictable income or payment amounts.

Anticipated Use Method—A method used to appraise underdeveloped land. Expected improvements to the land are specified, and total development costs are estimated and subtracted from the projected selling price to give an estimate of the value of the undeveloped land.

Anticipation—See **principle of anticipation**.

Appeal—A process in which a property owner contests an assessment either informally or formally.

Apportionment—Distribution of portions of a state-assessed unit value to taxing jurisdictions.

Appraisal—(1) The act of estimating the money value of property. (2) The money value of property as estimated by an appraiser. (3) Of or pertaining to appraising and related functions, for example, appraisal practice, appraisal services. *Compare* **assessment**.

Appraisal, Acquisition—An appraisal to determine the market value of a property that is to be taken by eminent domain, so that the owner might be justly compensated.

Appraisal, Complete—The act or process of estimating value or an estimate of value performed without invoking the departure provision (USPAP).

Appraisal, Composite—An appraisal of an integrated property as a single entity rather than as a number of fractional parts. Note: A composite appraisal is usually made by capitalization of income, by the stock and debt technique, or by analysis of sales data. Logically, the term “unit appraisal” should be used to convey this meaning, but it is sometimes used, with resulting confusion, to mean an appraisal based on unit cost or unit value. *Compare* **appraisal, summation**.

Appraisal, Fractional—(1) An independent appraisal of a fractional part of a property; for example, the appraisal of a building separately from the land by use of the depreciated reconstruction cost method. (2) An appraisal of part of an integrated property without reference to the value of the whole. (3) An appraisal of a partial interest; an appraisal of the divided or undivided rights in property that represent less than the whole.

Appraisal, Limited—The act or process of estimating value or an estimate of value performed under and resulting from invoking the departure provision (USPAP).

Appraisal, Summation—An appraisal of a whole property by adding together two or more fractional appraisals, for example, the appraisal of a parcel of improved land by adding the estimated depreciated reproduction cost of the building to the estimated value of the land as determined by comparison with other land values in the community. Note: The result of a summation appraisal will generally differ somewhat from that of a composite appraisal.

Appraisal, Unit—A composite appraisal.

Appraisal Card, Building—A card used by an assessor or appraiser on which is carried a sketch or photograph of a building, a description of its location, a list of the principal factors affecting its reproduction cost and depreciation, and the calculations by which such cost and depreciation are estimated. Note: The building appraisal card is frequently combined with the land appraisal card into a single document. In such event, the combination card may be used for a composite appraisal as well as for a summation appraisal. *Also called a **property record card**.*

Appraisal Card, Land—A card used by an assessor or appraiser on which is carried a sketch or an adequate description of a parcel of land, a description of its location, a list of the principal factors affecting its market value, and the calculations by which the market value is estimated.

Appraisal Date—The date as of which a property's value is estimated.

Appraisal Emulation Model—The appraisal emulation model that follows the steps that an appraiser might follow in forming a value estimate (although not with the same insight or flexibility that a qualified appraiser brings to the assignment). The model selects

“comparable sales” using some standard criteria. It then rates those comparable sales by suitability, based on the physical and sales characteristics of each comparable sale, by adjusting the varying elements (much as is done on an appraisal form); the model then calculates an estimate of value.

Appraisal Foundation, The—The organization authorized by the United States Congress as the source of appraisal standards and appraiser qualifications.

Appraisal Methods—The three methods of appraisal, that is, the cost approach, income approach, and sales comparison approach.

Appraisal Practice—The work or services performed by appraisers, comprising three activities: appraisal, review, and consulting (USPAP).

Appraisal Principles—The economic concepts underlying appraisal. *See under principle of: anticipation, balance, change, conformity, contribution, and substitution. See competition; demand; highest and best use; and variable proportions, law of.*

Appraisal Ratio—(1) The ratio of the appraised value to an indicator of market value. (2) By extension, an estimated fractional relationship between the appraisals and market values of a group of properties. *See level of appraisal.*

Appraisal Ratio Study—A ratio study using independent expert appraisals as indicators of market value.

Appraisal Report—The oral or written communication of a completed appraisal.

Appraisal-Sale Price Ratio—The ratio of the appraised value to the sale price (or adjusted sale price) of a property; a simple indication of appraisal accuracy.

Appraisal Standards Board—The division of The Appraisal Foundation that develops, publishes, interprets, and amends the Uniform Standards of Professional Appraisal Practice on behalf of appraisers and users of appraisal services.

Appraise—To make an estimate of value, particularly of the value of property.

Appraised Value—The estimate of the value of a property before application of any fractional assessment ratio, partial exemption, or other adjustments.

Appraiser—One who estimates the value of property; more commonly, one of a group of professionally skilled persons holding themselves out as experts in valuation.

Appraiser Licensing and Certification—A procedure whereby appraisers gain permission from the state to practice without supervision by demonstrating appropriate prelicensing skills and by agreeing to maintain and improve their skills and to conduct themselves in accordance with professional standards at all times.

Appraiser Qualifications Board—The division of The Appraisal Foundation that establishes education, experience, and other criteria for licensing, certification, and reclassification of qualified appraisers.

Appreciation—Increase in value of a property, in terms of money, from causes other than additions and betterments. For example, a farm may appreciate if a shopping center is built nearby, and property of any sort may appreciate as a result of inflation. *Contrast depreciation.*

Appurtenance—In appraisal, an appurtenance is any addition to a property that becomes a part of that property. Generally, an appurtenance differs from a fixture in that the fixture was once personal property.

Area, Blighted—An area under the pressure of deleterious forces resulting in increasing neglect and decay of physical improvements and decreasing social and economic values.

Area, Floor—See **floor area of building.**

Area, Ground—See **ground area of building.**

Area Coverage—Complete aerial photographic coverage of an area by conventional photography with parallel flight lines and stereographic overlap between exposures in the line of flight.

Arithmetic Mean—See **mean.**

Arm's-Length Transaction—(1) A sale between a willing buyer and a willing seller that are unrelated and are not acting under duress, abnormal pressure or undue influences. (2) A sale between two unrelated parties, both seeking to maximize their positions from the transaction.

Array—An ordered arrangement of data, such as a listing of sales ratios, in order of magnitude.

Assemblage—The assembling of adjacent parcels of land into a single unit. *Compare* **plottage**.

Assembly Value—The excess of the value of a large parcel of land formed from a number of smaller parcels over the sum of the values of the unassembled parcels.

Assess—To value property officially for the purpose of taxation.

Assessed Value—(1) A value set on real estate and personal property by a government as a basis for levying taxes. (2) The monetary amount for a property as officially entered on the assessment roll for purposes of computing the tax levy. Assessed values differ from the assessor's estimate of actual (market) value for three major reasons: fractional assessment ratios, partial exemptions, and decisions by assessing officials to override market value. The process of gathering and interpreting economic data to provide information that can be used by policymakers to formulate tax policy.

Assessment—(1) In general, the official act of determining the amount of the tax base. (2) As applied to property taxes, the official act of discovering, listing, and appraising property, whether performed by an assessor, a board of review, or a court. (3) The value placed on property in the course of such act.

Assessment, Acquisition-Based—One of a small number of non-market assessment valuation standards. A property is placed on the tax roll at its acquisition cost; that value is not changed until the next qualifying sale, as, for example, under California's Proposition 13, adopted as an amendment to the state constitution.

Assessment, Arbitrary—(1) Assessment without consideration of such information as is reasonably available to the assessor. (2) Assessment according to the "best knowledge and belief" of the assessor when a person fails to list property in accordance with law

(a usage not recommended). Note: Although this term is commonly used by assessors in the second of these senses to refer to a legal assessment, the courts commonly use it in the first sense to mean an illegal assessment. *Compare* **assessment, dooming**.

Assessment, Area-Based—One of a small number of nonmarket assessment valuation standards. A property is placed on the tax roll at a value reflecting the land area or the surface area (floor area) of an improvement.

Assessment, Central—An original assessment made by an officer or body whose jurisdiction with respect to the property so assessed extends over two or more local assessment districts.

Assessment, Dooming—An assessment made without adequate information when a taxpayer fails to comply with laws requiring him or her to list his or her property for taxation. *Compare* **assessment, arbitrary; assessment, penalty**.

Assessment, Fractional—Assessment at a fraction of full value, or of such other standard as may be fixed by law. Note: Fractional assessment may constitute underassessment, or it may be sanctioned by law as, for example, in Alabama, where all property is legally assessable at 60 percent of full value, and in Minnesota, where various classes of property are assessable at various percentages of full value.

Assessment, Jeopardy—An assessment made out of the regular routine when there is reason to believe that adherence to such routine will jeopardize the collection of taxes on the property so assessed.

Assessment, Original—(1) The official act of the assessor in discovering, listing, and appraising property for tax purposes up to the point at which the assessment roll is first filed for public inspection. (2) The act of assessment which first places a property on the assessment roll for the particular assessment date; the agency that performs this act is the original assessing agency (or jurisdiction). (3) The valuation at which property is listed in the assessment roll at the time it is first filed for public inspection.

Assessment, Penalty—An additional assessment, usually a given percentage of the assessment otherwise applicable, intended as a penalty for failure to comply with specified legal requirements.

Assessment, Retrospective—An assessment made after the close of a tax year on property that was legally assessable, but was not listed for taxation during such year.

Assessment, Self—A term applied to the assessment process, or to certain phases of the process, when the taxpayer files a return purporting to show the proper tax base on which to compute his or her tax liability, which return is accepted as a matter of law or of practice at its face value.

Assessment, Special—A compulsory charge imposed by a government on the owners of a selected group of properties to defray, in whole or in part, the cost of a specific improvement or service that is presumed to be of general benefit to the public and of special benefit to the owners of such properties. Synonymous with betterment tax. Note: Some authorities conceive of a special assessment as a nonrecurring charge, but such a concept is inapplicable to the charges made for nuisance abatement, which are now commonly called special assessments.

Assessment, Standardized—A system of property tax assessments based largely on the uniform application of established rules and principles. Note: Standardized assessment is usually manifested by the use of land value maps, depth and corner influence tables, building classification and cost schedules, reproduction cost and depreciation schedules, and the like.

Assessment, Statutory—Valuation of a property in a specified use at an amount specified by law (for example, a golf course will be assessed at ten dollars per acre); most often used for mineral properties and open space.

Assessment, Unit—An assessment involving a composite appraisal of a property, as distinguished from an assessment involving a summation appraisal or a fractional appraisal. *Compare* **assessment, central**. Note: Unit assessment is generally limited to specified properties extending beyond the confines of a local assessment district, but it is also applicable to properties wholly within a local assessment district.

Assessment Administration—Management and oversight of assessment programs (see **assessment**).

Assessment Administration Specialist (AAS)—A professional designation conferred by the International Association of Assessing Officers.

Assessment-Appraisal Ratio—The ratio of the assessed value of a property to an independent appraisal.

Assessment Base—The total assessed value of all property within a designated area; the property tax base.

Assessment Date—The status date for tax purposes. Appraised values reflect the status of the property and any partially completed construction as of this date.

Assessment District—The administrative area in which the officer or public body responsible for making the original assessment has jurisdiction. Note: The local assessment district is usually coterminous with a county, township, or city, but the state itself may be the assessment district for some types of property.

Assessment Equity—The degree to which assessments bear a consistent relationship to market value.

Assessment Jurisdiction—A geographical area within which an assessing officer has the responsibility to determine the assessed value of property for ad valorem taxation.

Assessment Level—The common or overall ratio of assessed values to market values.

Assessment Maps—See **cadastral map**.

Assessment Period—(1) The period beginning with the assessment date and ending with the date on which the assessor is required to complete the original assessment. (2) Sometimes used synonymously with assessment year.

Assessment Progressivity (Regressivity)—An appraisal bias such that high-value properties are appraised higher (or lower) than low-value properties in relation to market values. See **price-related differential**.

Assessment Ratio—(1) The fractional relationship an assessed value bears to the market value of the property in question. (2) By extension, the fractional relationship the total of the assessment roll bears to the total market value of all taxable property in a jurisdiction. See **level of assessment** and **fractional assessments**.

Assessment Ratio Study—An investigation intended to determine the assessment ratio and assessment equity.

Assessment Review—The reexamination of assessments by a governmental agency that has the authority to alter individual assessments on its own motion. *Compare* **appeal**.

Assessment Roll—The basis on which the property tax levy is allocated among the property owners in a jurisdiction with taxing powers. The assessment roll usually lists an identifier for each taxable parcel in the jurisdiction, the name of the owner of record, the address of the parcel or the owner, the assessed value of the land, the assessed value of the improvements, applicable exemption codes, and the total assessed value. Synonyms include “cadastre,” “list,” “grand list,” “abstract of ratables,” and “rendition.”

Assessment Year—(1) A year beginning on the day after the assessment date and ending on the assessment date in the calendar year next following. (2) The 365 days beginning with the appraisal date.

Assessment-Sale Price Ratio—The ratio of the assessed value to the sale price (or adjusted sale price) of a property.

Assessor—(1) The head of an assessment agency; sometimes used collectively to refer to all administrators of the assessment function. (2) The public officer or member of a public body whose duty it is to make the original assessment.

Asset—Any owned physical object (tangible) or right (intangible) having value; a source of wealth, expressed in terms of its cost, depreciated cost or, less frequently, some other value.

Asset, Current—An asset that the owner expects to sell, exchange, consume, or otherwise dispose of at relatively short intervals.

Asset, Fixed—Any asset other than a current asset; for example, buildings, machinery, patents, and stock of subsidiary corporations.

Assign—To transfer property or a specified interest in property.

Assignment—The transfer of any personal or real property or any rights in a property, by, for example, a deed, lease, or mortgage.

Assumption Fee—A lender’s fee for processing records when a new buyer assumes an existing loan.

Assumption of Mortgage—An agreement in which the buyer accepts liability for repayment of an existing debt. Unless the seller is released, he or she remains liable for the payment of such debt.

Attachment—Property seizure by a court order.

Attestation Clause—The witness clause in a document that affirms the document is properly executed.

Attribute—Characteristic of a property.

Audit—A systematic investigation or appraisal of procedures or operations for the purpose of determining conformity with specifically prescribed criteria.

Audit, Performance—An analysis of an organization to determine whether or not the quantity and quality of work performed meets standards. Ratio studies are an important part of performance audits of an assessing organization.

Audit, Procedural—An examination of an organization to determine whether established or recommended procedures are being followed.

Audit Program—The procedures undertaken or particular work done by an accountant in conducting an examination.

Audit Trail—A set of records of the changes made to another set of records.

Automated Valuation Model (AVM)—A mathematically based computer software program that produces an estimate of market value based on market analysis of location, market conditions, and real estate characteristics from information that was previously and separately collected. The distinguishing feature of an AVM is that it is a market appraisal produced through mathematical modeling. Credibility of an AVM is dependent on the data used and the skills of the modeler producing the AVM.

Average—The arithmetic mean.

Average Absolute Deviation—See **average deviation**.

Average Deviation—The arithmetic mean of the absolute deviations of a set of numbers from a measure of central tendency, such as the median. Taking absolute values is generally understood without being stated. The average deviation of the numbers 4, 6, and 10 about their median (6) is $(2 + 0 + 4) \div 3 = 2$. The average deviation is used in computing the coefficient of dispersion (COD).

B

Bailment—A transaction in which personal property is delivered by its owner (the bailor) to a second party (the bailee) into whose possession it is put for safekeeping or for some other temporary purpose or use with no intention that title shall pass to the second party.

Balance—See **principle of balance**.

Balance Sheet—An accounting statement of financial position of any economic unit, disclosing as of a given moment its assets, liabilities, and equity.

Balloon Mortgage—A mortgage not fully amortized at maturity and requiring a lump sum (or balloon) payment.

Baltimore Rule—Synonymous with “Bernard rule.”

Band—A wavelength interval in the electromagnetic spectrum. For example, in Landsat, the bands designate specific wavelength intervals at which images are acquired.

Band-of-Investment Analysis—A perspective on (and a technique for estimating) the discount rate. The discount rate is viewed as having two components, each weighted in proportion to typical financing terms for properties of the type in question. For example, if 75 percent loans are available at 9 percent interest and investors are known to seek a 14 percent return on equity, then the discount rate is 10.25 percent, that is, $(0.75 + 0.09 = 0.0675) + (0.25 + .14 = 0.0350) = 0.1025 = 10.25$ percent.

Base Line—A survey line running due east and west through the initial point of a principal meridian, from which township lines are established by the government survey.

Base-Home Approach—A method of appraising single-family residential properties whereby each residence to be appraised is compared with one having common or typical characteristics and of known value, called the base home, and differences between the two in terms of condition, size, number of garages, and the like are weighted by the appraiser in the determination of the value of the property to be appraised.

Base-Lot Method—A method of appraising land parcels whereby each parcel to be appraised is compared with a parcel having common or typical characteristics and of known value, called the base lot, and differences between the two in terms of location, size, shape, topography, and the like are analyzed by the appraiser in estimating the value of the lot to be appraised.

Bearing—The angle between a given line and the direction in which a magnetic needle points. Note: The bearing of a line is expressed in terms of quadrants and degrees; for example, N 50 degrees E; S 10 degrees W.

Bearing Wall—A wall that supports a portion of a structure.

Before-Tax Cash Flow—Amount of income remaining after deducting for operating expenses and debt service, but before income tax on operations is deducted.

Benchmark—(1) A term used in land surveying to mean a known point of reference. (2) In property appraisal, a property of known value and of known effective age and replacement cost. (3) By extension, a model property to be used in determining by comparison the grade or quality class of other properties.

Beneficial Estate—An estate of which the right to possession has not yet passed.

Beneficial Interests—The property interests resulting from equitable ownership in a property rather than legal ownership; for example, the interests of the beneficiary of a trust.

Beneficiary—(1) The person for whose benefit property is held in trust. (2) The person to whom the proceeds of an insurance policy are payable upon the happening of the event insured against or the nonhappening of the assured event. See **owner, equitable**.

Berm—A mound of earth that diverts or controls surface drainage flow, marks property boundaries, or alters topography.

Bernard Rule—A term generally applied to an empirical rule of appraising a corner lot by adding together the value ascribable to it as an inside lot on the main street and the value ascribable to it as an inside lot on the side street. Sometimes known as the Lindsay-Bernard or Baltimore rule. *Compare* **Zangerle curve**.

Beta—A measure of the volatility of a particular stock compared to the stock market as a whole.

Betterment—An expenditure on a fixed asset that increases its value, which, under accepted accounting procedures, is reflected in an equivalent increase in the asset's book value, and that does not result in the acquisition of a new property or the enlargement of an old one. *Compare* **addition; maintenance; improvements**.

Betterment Tax—*See* **assessment, special**.

Bias—A statistic is said to be biased if the expected value of that statistic is not equal to the population parameter being estimated. A process is said to be biased if it produces results that vary systematically with some factor that should be irrelevant. In assessment administration, assessment progressivity (regressivity) is one kind of possible bias.

Bill and Hold Goods—A type of inventory that has been invoiced but not shipped from the seller to the buyer.

Binary Variable—(1) Binary variables are qualitative data items that have only two possibilities—yes or no (for example, corner location). (2) A variable for which only two values are possible, such as results from a yes-or-no question, for example, Does this building have any fireplaces? Used in some models to separate the influence of categorical variables. Also called a **dichotomous variable** or a **dummy variable**. *See* **continuous variable; discrete variable**.

Binding Requirement—All or part of a standards rule of USPAP from which departure is not permitted.

Blanket Mortgage—A mortgage covering more than one property; used in, for example, subdivision development and cooperative apartment ownership.

Blended Model—A model where more than one modeling technique is used in deriving the estimate of value. Typically, the technique involves running a hedonic model and a repeat sales index. The results are then compared and evaluated. Based on each result, the blended model reports a final estimate of value. In addition to the hedonic model and repeat sales index, many blended models also include the results of a tax-assessed value model.

Block—An urban area, usually consisting of several lots, enclosed on all sides by public streets or by public streets and a river, a railroad right-of-way, or other more or less permanent boundary. Sometimes called a “Square.”

Block Face—The long edges of two city blocks that adjoin a street for the length of one block.

Blueprint—A detailed plan used as a guide by workers on a construction project.

Board of Appeals—A public body (other than a court) charged with the duty of hearing and deciding appeals taken by taxpayers or tax districts on assessments established by public officers or bodies other than the courts. Synonymous with “Board of Tax Appeals.” Note: The decisions of such a board are subject to further review by the courts on matters of law, but its findings are often made conclusive as to matters of fact. *Compare* **board of equalization; board of review.**

Board of Equalization—A public body (other than a court) having jurisdiction over two or more assessment districts which together make up a single tax district, charged with the duty of examining the assessment rolls of several assessment districts, and empowered, on appeal or on its own initiative, to revise assessments by district totals and/or by totals for particular classes of property. *Compare* **board of appeals; board of review.** Note: A board of equalization may also be a board of review.

Board of Review—(1) A public body (other than a court) having jurisdiction over one or more assessment districts, charged with the duty of examining the assessment roll or rolls, and empowered, on appeal or on its own initiative, to revise individual assessments (preferred). (2) Broadly, any such board or any board of appeals or board of equalization.

Board of Revision—See **board of review**.

Bond, Loan—A written instrument, under seal, evidencing a participating interest in an obligation of a borrower and containing a formal promise to pay a sum certain (the par or face value) at a fixed future date (the date of maturity), with interest payable periodically at a fixed rate. Note: This is the type of bond ordinarily referred to in the phrase “stocks and bonds.” There are a few exceptional bonds outstanding that have no date of maturity or that bear interest at a rate varying with the issuer’s income or with the general price level.

Book Depreciation—See **depreciation, book**.

Book Value—See **value, book**.

Boot—Any asset or liability made part of a real property exchange to equalize the value of the realty exchanged. Examples are debt incurred before the exchange, and purchase-money mortgages originating within the exchange.

Bootstrap—A computer-intensive method of statistical inference that is based on a repeated resampling of data to provide more information about the population characteristics. The bootstrap is a data-driven procedure that is particularly useful for confidence interval approximation when no traditional formulas are available or the sample has been drawn from a population that does not conform to the normal distribution.

Boundaries—The physical and/or man-made lines that define a parcel, subdivision, neighborhood, or district.

Breach of Contract—The failure to perform a contract, in whole or in part.

Breakdown Method—See **observed condition breakdown method**.

British Thermal Unit (BTU)—A unit of heat required to raise one pound of water one degree Fahrenheit.

Brownfield—An industrial or commercial site that is abandoned or underused because it suffers from real or perceived continuing contamination.

BTU—See **British Thermal Unit**.

Building, Standard—A building that conforms precisely to the specifications of some one of the categories in the building classification schedule or the cost schedule.

Building Capitalization Rate—A building capitalization rate is the sum of the recapture and return rates on an income-producing property. The rate applies only to the improved portion of a property.

Building Classification Schedule—A table giving standard specifications of a number of different typical buildings, classified according to use (such as one-family dwelling or office building), type of construction (such as wood frame or steel frame), exterior wall materials (such as brick or stone), and other factors affecting reproduction cost.

Building Cost Schedule—A table giving approximate reproduction costs per cubic foot, per square foot of floor area, or per square foot of ground area for each of the standard buildings in the building classification schedule. Note: The building cost schedule must be supplemented by cost schedules for parts of a building, such as an oil heating system or air-conditioning system, to take care of situations in which a building has specifications differing in some detail from those of the standard building.

Building Residual Technique—A capitalization technique used when land value is known and residual income to the building or improvement is capitalized to obtain the building or improvement value.

Build-up Method—The build-up method yields an overall capitalization rate from two components. The building capitalization rate and the land capitalization rate are weighted by the percentage of property value each represents and then added together to yield an overall rate.

Bullet Loan—Gap financing offered when a construction loan has expired but permanent financing has not yet been found.

Bundle of Rights—The six basic rights associated with the private ownership of property: right to use; sell; rent or lease; enter or leave; give away; and refuse to do any of these.

Business Assets—Tangible and intangible resources that are employed by a business enterprise in its operation.

Business Enterprise—A commercial, industrial, or service organization pursuing an economic activity.

Business Enterprise Value—A term applied to the concept of an intangible, nonrealty component of a property's value probably ascribable to supramarginal management competence. Different from goodwill and going-concern value.

Business Equity—The interests, benefits, and rights inherent in the ownership of a business enterprise or a part thereof in any form (including but not necessarily limited to capital stock, partnership interests, cooperatives, sole proprietorships, options, and warrants).

Business Premises—One type of situs that represents the more or less permanent location of personal property that is highly mobile in nature.

C

Cadastral Map—A scale map displaying property ownership boundaries and showing the dimensions of each parcel with related information such as parcel identifier, survey lines, and easements. Annotations on recent sale prices and land value are sometimes added.

Cadastral Mapping Specialist (CMS)—A professional designation conferred by the International Association of Assessing Officers.

Cadastre (or Cadaster)—A term commonly used in Europe to denote an official register or inventory of all lands and/or buildings, giving the area, location, owner, and either the value or estimated gross or net yield of each. Note: This list remains substantially unchanged for a number of years, except for names of owners, and serves more or less the same purpose as an assessment roll in the United States.

CAE—See **Certified Assessment Evaluator**.

Calibration—The process of estimating the coefficients in a mass appraisal model.

CAMA—See **computer-assisted mass appraisal**.

Capital—(1) A stock of wealth. (2) A stock of wealth other than land. (3) A stock of wealth set aside for the production of additional wealth. (4) The assets of a business, both tangible and intangible. (5) The total equity of the owners in the assets of a business. (6) That portion of the equity of the owners in the assets of a business concern that represents the money or money's worth invested by the owners with the express intention that it should remain permanently in the business (preferably "capital stock" if a corporation). Note: This term should not be used without qualification unless it be defined or its meaning made clear by the context.

Capital, Fixed—See **asset, fixed**.

Capital, Invested—(1) The full equity of the owners of a business in the assets of a business concern, as represented by capital, surplus, undivided profits, and any reserves that may reasonably be expected to accrue to the owners (preferred). (2) Occasionally used in a broader sense to include the amount invested in the concern not only by its owners, but also by some or all of its creditors.

Capital, Moneyed—An indefinite term generally used in connection with bank taxation and interpreted to include substantially all money and credits and all shares of stock in financial corporations. (Term not recommended for use.)

Capital Asset Pricing Model—A method for measuring the long-term cost of capital for a particular stock.

Capital Assets—(1) Long-term assets, intended to be permanent, used to produce income, for example, machinery, equipment, land, and buildings. (2) In accounting, the readily convertible or liquid assets, as of a certain date, of a corporation (for example, cash, merchandise inventories, and accounts receivable) not intended for sale, consumption, or conversion to cash during normal business operations.

Capital Expenditure—Cash investments to acquire or improve an asset that will have a life of more than one year; as distinguished from cash outflows for expense items normally considered as part of the current operations.

Capital Gain—The profit realized through the sale of a property if the sale price of that property exceeds the cost of acquisition and of any improvements the seller has added.

Capital Market—The interaction of buyers and sellers as they buy and sell long-term financial instruments, such as mortgages, bonds, and stock.

Capital Structure—(1) The manner in which a firm is financed, that is, the amount and kind of equity and debt that satisfies the need for funds. (2) The financing mix of debt and equity. Note: Capital structure may be based on book values or market values.

Capitalization—The phenomenon whereby one or more events of economic consequence expected to happen in the future exert an economic effect on values, processes, and decisions in the present. Specifically, the conversion of expected income and rate of return into an estimated present value in the income approach to value. Property taxes, anticipated changes, and land-related government services may also be capitalized. See **yield capitalization**.

Capitalization of Ground Rent—Method of estimating land value in the absence of comparable sales; applicable where there is an income stream; for example, to farmland and commercial land leased on a net basis.

Capitalization of Income—The act of determining the present worth of anticipated income, especially when anticipated income is assumed to be equal to past income from the same source. See **discounting**.

Capitalization of Income Method—Method of estimating accrued depreciation similar to the sales comparison approach except that estimated values (appraisals) based on the income approach are used instead of comparable sales. Reliability depends on accurate data and appropriate methods.

Capitalization of Taxes—The act of determining the present worth of anticipated taxes on a property and adjusting the value of the property in accordance with such determination. Note: The value of the property may be adjusted either downward or upward, depending on whether the present worth of the anticipated taxes is greater or less than their present worth as reflected in previous valuations of the property. For example, if taxes are decreased and other factors remain equal, the value of the property is increased by the present worth of the estimated excess of the old taxes over the new, and the decrease in taxation is said to be capitalized.

Strictly speaking, taxes are capitalized as soon as they are taken into account in placing a capital value on property; some authorities, however, speak of taxes being capitalized only when a property is sold at a price that allows for them.

Capitalization Rate—Any rate used to convert an estimate of future income to an estimate of market value; the ratio of net operating income to market value.

Capitalized Leased Property—Property included on the company books under capital leases. Capital leases are leases that are effectively considered to be sales under Generally Accepted Accounting Principles (GAAP).

Capitalized Value—The value of a property estimated by the income approach to value.

Cash Discount—A discount of a billed amount if paid within a specified period.

Cash-Equivalent Sale Price—An indicator of market value that is a refinement over the raw sale price, in that the effects of unusual financing arrangements and extraneous transfers of personal property have been removed. See **adjusted sale price**.

Cash Flow—Amount of money left after subtracting operating expenses and debt service from rents collected. Before-tax cash flow (also called “cash throw-off”) signifies that income tax effect has not been considered; after-tax cash flow includes income tax savings generated by ownership.

Cash Flow Analysis—A study of the anticipated movement of cash into or out of an investment.

Cash Lease—A cash lease is a written document transferring from one owner to another party the right to live in or to use property for a specified period of time for a specified amount of money.

Cash Throw-Off—See **cash flow**.

Categorical Variable—A variable summarizing more complex qualitative judgments by assigning each to a category or giving each a rating. For example, quality of construction might be categorized as poor, fair, average, or good, or assigned a rating from 1 to 4. The categories might then be scaled by assigning a value of 100 percent to the average category and values of 60 percent and 120 percent to the extremes of poor and good.

Caveat Emptor—“Let the buyer beware.” A common maxim stating that the buyer purchases at his or her own risk.

Central Meridian—The central line of longitude used as the basis for the construction of many map projections. An example would be the meridian at the center of each universal transverse Mercator zone, which is numbered 500,000 meters and used as the reference for east-west measurements within the zone.

Central Processing Unit (CPU)—The basic part of a computer. Contains circuitry necessary to interpret and execute program instructions.

Central Tendency—(1) The tendency of most kinds of data to cluster around some typical or central value, such as the mean, median, or mode. (2) By extension, any or all such statistics. Some kinds of data, however, such as the weights of cars and trucks, may cluster about two or more values, and in such circumstances, the meaning of central tendency becomes unclear. This may happen in ratio studies when two or more classes of property are combined.

Central Tendency, Measure of—A single point in a range of observations around which the observations tend to cluster. The three most commonly used measures of central tendency are the mean, median, and mode.

CERCLA—The Comprehensive Environmental Response Compensation and Liability Act of 1980, as amended by the Superfund Amendment and Reauthorization Act (SARA) of 1986; authorizes the “superfund” administered by the Environmental Protection Agency (EPA).

Certificate of Deposit (CD)—A time deposit in a bank or savings institution that carries a fixed rate of interest and a penalty for withdrawal before maturity.

Certificate of Redemption—The evidence of buying back or redeeming a property by the owner after loss through a judicial sale.

Certificate of Sale—A certificate, issued to the buyer at a judicial sale, that entitles the buyer to a deed upon confirmation of the sale by the court or if the property is not redeemed within a specified time.

Certificate of Title—A document that states that the title to the property is believed to be clear based on the examination of the abstract of title for the property.

Certified Assessment Evaluator (CAE)—A professional designation conferred by the International Association of Assessing Officers.

Certified Public Accountant (CPA)—Accountants who, having met the statutory requirements of a state and having been registered or licensed to practice public accounting, are permitted by the state to call themselves “certified public accountants” and use the initials “CPA” after their names.

Certiorari, Writ of—An order issued by a superior judicial or quasi-judicial body requiring an inferior judicial or quasi-judicial body to certify to the superior body the records of a case for judicial review.

Cestui Que Trust—A beneficiary of property held in trust.

Chain—A land measure of sixty-six feet or four rods or 100 links.

Change—The tendency of the social and economic forces affecting supply and demand to alter over time, thus influencing market value.

Change Principle—See **principle of change**.

Chart of Accounts—A list of accounts systematically arranged, applicable to a specific concern, giving account names and numbers.

Chattel—Tangible personal property. See **property** and **mortgage, chattel**.

Chattel Mortgage—See **mortgage, chattel**.

Check Digit—An extra digit used for the purpose of performing a check. For example, using X and 0 to indicate even divisibility or nondivisibility by 2 would result in the sequence of numbers 1, 2, 3, 4 being represented as 10, 2X, 30, 4X. Computer systems generally have a number of such checks built in to ensure that the machine made no errors in writing or reading data, the data entry clerk did not transpose digits or leave out records, and so on.

Chi-Square—A particular statistic, and a particular frequency distribution associated with it, of interest in inferential statistics. (Chi, a Greek letter, is symbolized by χ).

Chronological Age—The number of years elapsed since an original structure was built. Synonyms are actual age and historical age. *Contrast with effective age.*

Circuit Breaker—For qualifying property owners, a credit or rebate of specified amounts of property taxes incurred whenever such taxes exceed specified percentages or amounts of household income. In instances where renters are included, rent or rent equivalents substitute for property taxes.

Class—A set of items defined by common characteristics. (1) In property taxation, property classes such as residential, agricultural, and industrial may be defined. (2) In assessment, building classification systems based on type of building design, quality of construction, or structural type are common. (3) In statistics, a pre-defined category into which data may be put for further analysis. For example, ratios may be grouped into the following classes: less than 0.500, 0.500 to 0.599, 0.600 to 0.699, and so forth.

Classical Income Approach—The classical income approach uses the IRV formula (Income = Rate + Value) in order to convert present and future benefits of property ownership into an indication of the property's present value. In its simplest form, it requires an appraiser to (1) determine net annual income, (2) determine the capitalization rate, and (3) capitalize income into an estimate of value. See **income approach**.

Classification—(1) The act of segregating property into two or more classes for the application of different effective tax rates by means of one or more special property taxes (see **tax, special property**) or a classified property tax system. For a representative scheme, see

property use category. (2) In a geographic information system, the process of assigning individual pixels of a multispectral image to categories, generally on the basis of spectral reflectance characteristics.

Classified Property Tax System—(1) A system intended by law to tax various kinds of property at different effective tax rates. Thus, two different kinds of property worth the same amount of money have different tax bills. Although this could be done by applying different tax rates to different kinds of property that share a common assessment ratio, the usual approach is to apply a uniform tax rate to all properties and establish by law what the assessment ratio should be for each class of property. (2) Loosely, by extension, a set of assessment practices that has this result contrary to laws requiring uniformity.

Client—Any party for whom a fee appraiser performs a service.

Closing—The act of finalizing a real estate transaction that executes and delivers mortgage or property title documents.

Closing Costs—Settlement fees and expenses incurred in transferring property ownership that are paid at the real estate closing.

Closing Statement—A listing of incurred closing costs of the buyer and seller in closing a real estate transaction.

Cloud on Title—Any valid claim, encumbrance, or lien that may impair the title to real property.

CMS—See **Cadastral Mapping Specialist**.

COD —See **coefficient of dispersion**.

Coding—(1) The act of reducing a description of a unique object, such as a parcel of real estate, to a set of one or more measures or counts of certain of its characteristics, such as square footage, number of bathrooms, and the like. (2) Encoding, a related term, is usually used to refer to the act of translating coded descriptions useful to human beings into a form that can be processed by computers. (3) Coding is sometimes also used to refer to the writing of instructions that direct the processing done by computers.

Coefficient—(1) In a mathematical expression, a number or letter preceding and multiplying another quantity. For example, in the expression, $5X$, 5 is the coefficient of X , and in the expression aY , a is the coefficient of Y . (2) A dimensionless statistic, useful as a measure of change or relationship; for example, correlation coefficient. See **coefficient of dispersion** and **coefficient of variation**.

Coefficient of Concentration—The percentage of observations falling within a specified percentage (say, 15 percent) of a measure of central tendency.

Coefficient of Determination (R^2)—A statistic that characterizes two or more sets of numbers. The coefficient of determination, when multiplied by 100, gives the percentage strength of the (linear) relationship between or among the sets of numbers. (See **correlation**.) For two variables, the coefficient of determination and the square of the correlation coefficient are identical; for three or more variables, the coefficient of determination measures the strength of the relationship between the dependent variable and all the independent variables combined.

Coefficient of Dispersion (COD)—The average deviation of a group of numbers from the median expressed as a percentage of the median. In ratio studies, the average percentage deviation from the median ratio.

Coefficient of Price Related Bias (PRB)—The PRB indicates the percentage by which assessment ratios change whenever values are doubled or halved. For example, a PRB of $-.03$ would mean that assessment levels fall by 3% when value doubles. The PRB should range between -0.05 and $+0.05$. PRBs outside the range of -0.10 to $+0.10$ are considered unacceptable.

Coefficient of Variation (COV)—A standard statistical measure of the relative dispersion of the sample data about the mean of the data; the standard deviation expressed as a percentage of the mean.

Coincidence, Line of—Synonymous with the preferred term merge line.

Color—That property of an object that is dependent on the wavelength of the light it reflects or, in the case of a luminescent body, the wavelength of light that it emits. If this light is of a single wavelength, the color seen is pure spectral color; if light of two or more wavelengths is emitted, the color will be mixed.

Color Infrared Film—Photographic film sensitive to energy in the visible and near-infrared wavelengths, generally from 0.4 to 0.9 micrometers; usually used with a minus-blue (yellow) filter, which results in an effective film sensitivity of 0.5 to 0.9 micrometers. Color infrared film is not sensitive in the thermal infrared region and therefore cannot be used as a heat-sensitive detector.

Color of Title—Color of title refers to an appearance of legal ownership that arises from irregular conveyances. If, for example, an owner's claim to property depended on a deed that had never been recorded, that owner would have color of title but would not have full legal title. Color of title cannot arise from fraudulent documents, such as forgeries.

Commercial Paper—Short-term promise to pay issued by a corporation.

Commercial Property—See **property use category**.

Common Area—The total area within a property that is not designed for rental or sale, which is available for common use by all tenants and owners. See **undivided interest**.

Common Equity—On the books of a corporation, the amount of common stock plus premium on common stock plus retained earnings less reacquired common stock less common stock expense plus any additional paid-in capital associated with common stock. The equity interest in a property.

Community Property—Property which is acquired by either spouse during their marriage that becomes owned by them equally.

Comparable Match—This concept involves the development of value based on analysis of similar (but not identical) properties using some measure of utility (such as size or capacity) as the basis of comparison. For example, when appraising an engine lathe manufactured by Company A, the appraiser has comparables of other

similar engine lathes of the same size manufactured by Companies B and C. Obviously, compared to a direct match, this technique becomes more subjective, which requires additional analysis of the elements of comparison.

Comparable Sales; Comparables—(1) Recently sold properties that are similar in important respects to a property being appraised. The sale price and the physical, functional, and locational characteristics of each of the properties are compared to those of the property being appraised in order to arrive at an estimate of value. (2) By extension, the term “comparables” is sometimes used to refer to properties with rent or income patterns comparable to those of a property being appraised.

Comparative Unit Method—(1) A method of appraising land parcels in which an average or typical value is estimated for each stratum of land. (2) A method of estimating replacement cost in which all the direct and indirect costs of a structure (except perhaps architect’s fees) are aggregated and specified with reference to a unit of comparison such as square feet of ground area or floor area, or cubic content. Separate factors are commonly specified for different intervals of the unit of comparison and for different story heights, and separate schedules are commonly used for different building types and quality classes.

Comparison Factor—A comparison factor is a difference between two properties that influences market value and can be measured. The number of bedrooms in a single-family residence is a comparison factor.

Comparison Unit—Comparison units express an overall value attributable to a property in terms of the value per unit of measure. The sale price of a vacant lot, for example, can be expressed as a cost per square foot or cost per front foot. The income produced by a property can also be expressed in comparison units, such as rent per square foot.

Competition—(1) The attempt by two or more buyers or sellers to buy or sell similar commodities in the same market. (2) Principle of value that states that when the amount of a property of a certain type offered for sale is large in relation to demand, prices will fall; prices will rise when the opposite situation prevails.

Complementary Commodities—Goods related in such a way that an increase in the consumption of one increases the consumption of the other.

Composite Appraisal—See **appraisal, composite**; and **assessment, unit**.

Composite Rate—An overall rate of blended or weighted averages of several rates of return applicable to single investments as represented by R in the Ellwood formula. See **mortgage-equity analysis**.

Compound Interest Table—A graphic presentation that specifies an interest rate and a compounding period and gives six functions of a dollar at various yearly or monthly intervals—the future worth of \$1 after one interval, the future worth of the \$1 deposited at the beginning of each interval, the sinking-fund factor, the present worth factor, the present worth of \$1 per interval, and the amount to amortize.

Computer-Assisted Assessment System—A system for assessing real and personal property with the assistance of a computer. A computer may be used, for example, in the appraisal process, in keeping track of ownership and exemption status, in printing the assessment roll, in coordinating the work load of real property appraisers and personal property appraisers with respect to the assessment of commercial and industrial properties, and in a number of other areas.

Computer-Assisted Mass Appraisal (CAMA)—A system of appraising property, usually only certain types of real property, that incorporates computer-supported statistical analyses such as multiple regression analysis and adaptive estimation procedure to assist the appraiser in estimating value.

Concession—Benefits granted by a lessor or seller as an inducement to lease or purchase.

Condemnation—(1) The exercise of the right of eminent domain to secure legal title to private property required for a public use. (2) A declaration by a constituted authority to the effect that a structure is unfit for occupancy or dangerous to persons or other property, often accompanied by exercise of the police power to limit or prohibit occupancy or to require demolition of the structure. Note: The term “expropriation” is also used to convey the first of these meanings.

Condemnation, Excess—Condemnation of more private property than is actually required for a specific public improvement, with the intention of selling, leasing, or otherwise using the excess.

Condition—A judgment of the depreciation of an improvement. Note: This is a difficult area of comparison because although the condition of the subject is known, it is difficult to know the condition of the comparable. Differences in condition may justify variances in selling prices of similar assets. An investigation of the condition of the comparables should be done, if possible.

Condition, percent—See **percent condition**.

Conditional Sale—See **sale, conditional**.

Condominium/Condominium Unit—A condominium is a separately owned unit of real property in the same structure with other such units; the unit owners hold an undivided interest in common elements of the property, such as a lobby, swimming pool, and grounds. See **cooperative**.

Confidence Interval—A range of values, calculated from the sample observations, that are believed, with a particular probability, to contain the true population parameter (mean, median, COD). The confidence interval is not a measure of precision for the sample statistic or point estimate, but a measure of the precision of the sampling process. See **reliability**.

Confidence Level—The required degree of confidence in a statistical test or confidence interval; commonly 90, 95, or 99 percent. A 95 percent confidence interval would mean, for example, that one can be 95 percent confident that the population measure (such as the median or mean appraisal ratio) falls in the indicated range.

Conformity—See **principle of conformity**.

Consideration—The amount of money and other valuable goods or services on which a buyer and a seller agree, to consummate a sale.

Consigned Goods—Inventory in the possession of a selling agent, but owned by another party. The agent has no equity, no control of price or sale, and receives none of the profit (as such) from sale of the property (but may receive a sales commission).

Consignment—(1) A shipment of goods from one person (the consigner) to another (the consignee). (2) (Preferred.) A bailment contract whereby one party (the consigner) places his or her goods in the possession of a second party (the consignee or factor) for the purpose of sale by the second party.

Consistent Use—The concept that land should not be valued on the basis of one use while the improvements are valued on the basis of another.

Construction in Progress—Property that is in a process of change from one state to another, such as the conversion of personal property from inventory to fixed asset by installation or the conversion of personalty to realty by becoming a fixture.

Consulting—The act or process of providing information, analysis of real estate data, and recommendations or conclusions on diversified problems in real estate, other than an estimate of value.

Consumption Value—Consumption value expresses the worth of a property in terms of its capacity to produce personal satisfaction for the owner.

Contact Print—A photographic image produced by the exposure of a sensitized emulsion-coated paper in direct contact with a negative or positive film.

Contiguous—Sharing a property boundary; adjacent.

Contingency Table—A table that shows how a dependent variable varies with respect to two independent variables.

Contingent Fee—A fee determined by the results of the services to be performed or by other future events.

Contingent Valuation Method (CV)—In economics, a method of valuing public goods. The CV method uses survey questions to elicit people's preferences for public goods by finding out what they would be willing to pay for specified improvements in them. The method is thus aimed at eliciting people's willingness to pay, expressed in dollar amounts.

Continuous Data—Data that can take any value in a given range. They are often based on measurements (for example, lot size). Quantitative and continuous data can be thought of as synonymous.

Continuous-Strip Photography—Photography of a strip of terrain in which the image remains unbroken throughout its length along the line of flight.

Continuous Tone—An image that has not been screened and contains unbroken, gradient tones from black to white, and may be in either negative or positive form.

Continuous Variable—A variable for which it is conceivable that, given any two observed values, a value lying between them may occur. For example, temperature and finished living area are continuous variables; quality class and number of fireplaces are not. See **binary variable** and **discrete variable**.

Contour—An imaginary line on the ground, all points of which are at the same elevation above or below a specified reference surface.

Contract, Land—See **land contract**.

Contract for Deed—A contract for sale in which the seller retains title until the buyer completes the contracted payments for the property. The sale is not recorded until title passes to the buyer. See **land contract**.

Contract Rent—The actual amount of rent, per unit of time, that is specified in the contract (lease). For very old contracts, the contract rent may be substantially less than the rent the property would bring today. Compare **market rent**.

Contribution—See **principle of contribution**.

Contributory Value—The amount a component of a property contributes to the total market value. For improvements, contributory value must be distinguished from cost.

Control—(1) A control station. (2) The coordinates of a control station. (3) A collection of control stations. (4) The geometric data associated with a collection of control stations, such as coordinates, distances, angles, or directions between control stations. It is practically equivalent, in this sense, to basic control.

Control Point—A point to which coordinates have been assigned; these coordinates are then used in other (dependent) surveys.

Control Sample—Part of a set of data set aside for testing the results of analysis.

Conversion—Changing a property’s particular use or ownership, such as converting a large residence into offices.

Conveyances—Legal documents that transfer ownership of property. Deeds and wills are examples of conveyances. *Compare* **real estate transfer documents**.

Cooperative—A business entity, usually a corporation, that holds title to realty and that grants rights of occupancy to its shareholders by means of proprietary leases or similar devices. A cooperative-ly owned apartment building is legally different from a building consisting of condominium units. See **condominium** and **blanket mortgage**.

Coordinate—One of a set of N numbers designating the location of a point in N -dimensional space. Coordinates are almost always associated with coordinate systems. A coordinate system provides an easy way for finding the point designated by the set of coordinates, or for assigning a set of coordinates to a point. The coordinates are said to be “in” the associated coordinate system. It is also common to speak of the associated point as being “in” that coordinate system.

Coordinate, Geodetic—One of the set of coordinates designating the location of a point with respect to the reference ellipsoid and with respect to the planes of the geodetic equator and a selected geodetic meridian.

Coordinate, Geographic—(1) An inclusive term, used to designate either a geodetic or an astronomic coordinate. (2) The term may also designate one of a pair of coordinates that specifies the angular distances of a point from a meridian and from the equator.

Coordinate System—(1) A system for locating any geographic point by determining its north–south and east–west distance from some known base point. (2) By extension, a system for identifying each assessable parcel of real estate by means of coordinates, usually by recording the coordinates of the center of each parcel.

Coordinate System, Absolute—Refers to a worldwide coordinate system versus a relative coordinate system (local).

Coordinate System, Cartesian—(1) A two-dimensional coordinate system in which the location (coordinates) of a point is expressed as its distances from two intersecting (usually perpendicular) straight lines, the distance from each line being measured along a straight line parallel to the other line. (2) A three-dimensional coordinate system with the same features, except that planes rather than lines are the references.

Coordinate System, Geodetic—A coordinate system consisting of an ellipsoid, the equatorial plane of the ellipsoid, and a meridional plane through the polar axis.

Coordinate System, Grid—A coordinate system on a plane usually based on a map projection. The most common form is a rectangular Cartesian coordinate system. An example is the State Plane Coordinate System. Polar coordinate systems are also used, for example, in aviation and artillery firing. The advantage of a grid coordinate system is that plane coordinates may be substituted for geographic coordinates and the computations relating to them may be made by the simple methods of plane surveying.

Coordinate System, Local—A coordinate system that has its origin within the region being investigated and that is used principally for points within that region.

Coordinate System, State Plane—(1) One of the plane rectangular coordinate systems for each state in the United States, established by the United States Coast and Geodetic Survey in 1933 for use in defining locations of geodetic stations in terms of plane-rectangular Cartesian coordinates. State plane coordinate systems have been established for all fifty states, and within each state there are one or more separate projections of areas known as zones. The boundaries of state plane coordinate zones are coterminous with county and state boundaries, an administrative advantage in that counties are never required to use more than one state plane coordinate zone. (2) A mathematical projection of the curved surface of the earth on a flat surface over which a coordinate grid expressed in feet is laid.

Copyright—The exclusive right granted by a government for a limited period to an author, composer, designer, or such, or his or her heirs, legatees, or assigns, to reproduce, publish, and sell copies of an original literary or artistic work.

Corner—In land surveying, a point on a land boundary at which two or more boundary lines meet.

Corner Influence—(1) The effect of location at, or proximity to, the intersection of two streets upon the value of a lot or parcel. (2) The increment of value resulting from such location or proximity; found most often in commercial properties because of greater ease of entry and exit, accessibility to higher volume of traffic, and increased show-window and advertising space.

Corporation—A legal entity (business organization form) operating under a grant of authority from a state in the form of a charter and articles of incorporation.

Corporation, Domestic—A corporation organized under the laws of the state of reference.

Corporation, Foreign—A corporation organized under the laws of some state other than the state of reference. Note: The term “state” as used here includes any foreign country.

Correlation—A statistical phenomenon (and a technique for estimating its strength) whereby knowledge of one fact about a thing implies some knowledge of a second fact about that thing. For example, because the volume and weight of water are correlated, knowing that a quantity of water is one gallon also means knowing that its weight is eight and one-third pounds. Linear correlation, the kind most often encountered, means that an increase in one factor in some proportion (say, a doubling) changes the other in the same proportion. With curvilinear correlation, as between the radius and the area of a circle, this is not true, despite the fact that the correlation may be very strong in the sense that knowledge of one fact tells you precisely the other fact. These are examples of variables perfectly correlated or nearly so; more often, correlation is only partial—for example, the correlation between the age and height of a child. The correlation coefficient gives the strength of the linear relationship between the two variables.

Correlation Coefficient (r)—A statistic that characterizes two or more sets of numbers and, when squared and multiplied by 100, gives the percentage strength of the (linear) relationship between the two sets of numbers. For example, if the coefficient of cor-

relation between measures of the height and weight of a group of people were 0.9, then one would deduce that knowing the height of someone (loosely speaking) would explain (or account for) 81 percent of the weight.

Correlation Matrix—The table of numbers used to display the correlation coefficients for each pair of variables when three or more variables are thought to be correlated.

Cost—The money expended in obtaining an object or attaining an objective; generally used in appraisal to mean the expense, direct and indirect, of constructing an improvement.

Cost, Construction—The sum of direct costs of materials and labor plus contractor's indirect costs to build an improvement.

Cost, Depreciated Reproduction—The reproduction cost of a given property, less the estimated amount of accumulated depreciation on such property. See **reproduction cost new**.

Cost, Direct—A cost which can be traced directly to a particular unit of output, for example, cost of raw materials or certain labor costs. Note: A direct cost usually varies more or less directly with the number of units output. Synonymous with "prime cost." *Contrast cost, overhead.*

Cost, Fixed—A cost that is more or less inevitable and continuous; that does not vary with production levels; and that cannot be changed in the short run. Synonymous with "fixed charge." *Compare cost, overhead.*

Cost, Historic—The cost of an asset not adjusted for inflation since the date of purchase, as opposed to the current replacement or reproduction cost. Usually the basis for depreciation in accounting, which has a requirement that all information on financial statements be presented in terms of the item's original cost to the entity. Also called original cost.

Cost, Original—The cost of acquisition of a property by its present owner, plus the cost of any additions and betterments made by such owner, whether or not such costs represent prudent investments. Also called "actual cost" and "historical cost."

Cost, Overhead—A cost that is not directly traceable to any given unit of output, for example, salaries of managers, interest on funded debt, and property taxes. Sometimes referred to as “indirect cost.” Note: An overhead cost does not ordinarily vary with any close relationship to units of output. It is impossible to draw a sharp line of demarcation between overhead and direct costs; the difference is purely one of degree, and any classification of costs into these two groups is necessarily somewhat arbitrary. *Contrast cost, direct.*

Cost, Trended—The original cost adjusted to current price levels by means of composite or individual price indexes of items entering into such cost. Note: The trended cost should closely approximate the reproduction cost if the price indexes are appropriately selected and properly constructed.

Cost, Unit—See **unit cost**.

Cost Approach—(1) One of the three approaches to value, the cost approach is based on the principle of substitution—that a rational, informed purchaser would pay no more for a property than the cost of building an acceptable substitute with like utility. The cost approach seeks to determine the replacement cost new of an improvement less depreciation plus land value. (2) The method of estimating the value of property by: (a) estimating the cost of construction based on replacement or reproduction cost new or trended historic cost (often adjusted by a local multiplier); (b) subtracting depreciation; and, (c) adding the estimated land value. The land value is most frequently determined by the sales comparison approach.

Cost Index—An index showing the variations in construction costs over time; sometimes, by extension, a set of similar numbers showing the relative costs of construction in different geographic areas.

Cost Manual—A guide, containing pictures, specifications of structures, and cost schedules, used to help classify construction quality and estimate the cost of replacing a structure.

Cost of Capital—The opportunity cost of capital.

Cost-of-Development Method—A method of appraising undeveloped land, whereby an estimate is made of the probable proceeds to be obtained from selling the land as subdivided, developed parcels. The cost of so developing the raw land is subtracted from this estimate to obtain an estimate of the value of the raw land.

Cost of Equity—See **equity yield rate**.

Cost of Goods Sold (Cost of Sales)—(1) Retail: The total cost of goods sold during a given accounting period is determined by ascertaining the invoice costs of the materials purchased; adding the value of the inventory on hand at the start of the fiscal period, and subtracting the value of the inventory remaining on hand at the end of the fiscal period. (2) Manufacturing: The cost of production of the items sold, such as raw materials, direct labor, and overhead.

Cost of Repairs—All expenditures necessary to cure deterioration.

Cost Schedules—Charts, tables, factors, curves, equations, and the like intended to help estimate the cost of replacing a structure from a knowledge of some other factors, such as its quality class and number of square feet.

Cost Study—The determination of replacement cost new.

Cost to Cure—Estimated cost to correct or replace a component or defect within a property.

Cost Trend Factor—A factor derived from a cost index used to estimate the contemporary cost of something based on its historic cost.

Coupon Rate—The coupon rate is the rate of return specified on the face of a debt instrument (such as a bond) as opposed to the actual return (or effective yield).

COV—See **coefficient of variation**.

Covenant—A covenant is a promise written into a legal agreement (such as a deed) that binds the parties to abide by or refrain from certain acts. A deed restriction is a special kind of covenant.

Credit—A claim for money or money's worth that is enforceable at law, whether due or accruing and whether secured or not, for example, accounts receivable, notes, bonds, accrued interest and rent, and bank deposits, but not corporate stock.

Credit, Property Tax—An offset against the property tax payment or another tax payment for taxpayers who meet certain criteria (for example, renters), or whose properties have certain characteristics or are used for specified purposes (for example, pollution abatement); a direct reduction in a tax payment rather than in a tax base.

Critical Value—The value, found in a table, with which a computed statistic is compared to determine whether the null hypothesis is accepted or rejected at the specified confidence level.

Cubic Content of Building—The actual cubic space enclosed within the outer surfaces of the outside or enclosing walls and contained between the outer surfaces of the roof and six inches below the finished surfaces of the lowest floors. Synonymous with “cube of building”; “cubage of building”; “cubicle content of building.” Note: This is the definition approved by the American Institute of Architects. The Institute offers the following interpretation: “The above definition requires the cube of dormers, penthouses, vaults, pits, enclosed porches, and other enclosed appendages to be included as a part of the cube of the building. It does not include the cube of courts or light shafts, open at the top, or the cube of outside steps, cornices, parapets, or open porches or loggias.” It is recommended, however, that closed porches and other enclosed appendages of large volume be included only if they are of a type of construction similar to that main part of the building. In the case of party walls, floors, and ceilings, measurements should be made to the center of the wall, floor, or ceiling.

Current Asset—Unrestricted cash or other asset held for conversion within a relatively short period into cash or other similar asset or useful goods or services. Usually the period is one year or less but for some items, such as accounts receivable in installments, the period may be longer (by contract).

Current Liability—A short-term debt regardless of its sources, including any liability accrued and defined, and unearned revenue that is paid out of current assets or is transferred to income within a relatively short period, usually one year or less.

Current-Market-Value Appraisals—Appraisals that reflect contemporary market values rather than market values at some point in the past. Currency is commonly taken to be implicit in the term market value.

Curve, Depth—See **depth curve**.

Curve, Zangerle—See **Zangerle curve**.

D

Data—Information expressed in any of a number of ways. “Data” is the general term for masses of numbers, codes, and symbols generally, and “information” is the term for meaningful data. “Data” is the plural of datum, one element of data.

Data Collection Platform (DCP)—The system on board Landsat that acquires information from ground-based instruments such as seismometers, flood gauges, and other measuring devices. These data are transmitted to the satellite and in turn are relayed to an earth receiving station.

Data Edit—The process of examining recorded data to ensure that each element of data is reasonable and is consistent with others recorded for the same object, such as a parcel of real estate. Data editing, which may be done by human beings or by computer, is essentially a mechanical process, distinct from verifying the correctness of the recorded information by calling or writing property owners.

Data Management—The human (and sometimes computer) procedures employed to ensure that no information is lost through negligent handling of records from a file, that all information is properly supplemented and up-to-date, and that all information is easily accessible.

Date, Assessment—See **assessment date**.

Date of Acquisition—The effective purchase date of an asset. From the date of acquisition, the asset must appear in the accounts and in financial statements, and depreciation, if any, must be recorded.

Date of Sale (date of transfer)—The date on which the sale is agreed. This is considered to be the date the deed, or other instrument of transfer, is signed. The date of recording can be used as a proxy if it is not unduly delayed as in a land contract.

Datum (Geodetic)—(1) A reference surface consisting of five quantities: the latitude and longitude of an initial point, the azimuth of a line from this point, and two constants necessary to define the reference spheroid; the basis for the computation of horizontal control surveys in which the curvature of the earth is considered (leveling). (2) A level surface to which elevations are referred; usually, but not always, mean sea level.

Debit—An accounting entry or posting recording the creation of or addition of an asset or an expense, or the reduction or elimination of a liability, credit valuation account, or item of net worth of revenue.

Debt—In general usage, debt is money owed.

Debt Capitalization Rate—Debt component of an overall direct capitalization rate. Computed by dividing annual interest payments by the market value of debt.

Debt Coverage Ratio (DCR)—The ratio of net operating income to debt service, which is used to estimate the overall capitalization rate in direct capitalization. The formula for the overall capitalization rate (OAR) is $OAR = DCR \times \text{Annual debt cost} \times \text{Debt percentage of capital structure}$.

Debt Rate—The interest rate on borrowed money.

Debt Service—The total payments of principal and interest on a mortgage.

Declaration—A term occasionally used to designate a property list filed by a taxpayer.

Declaration of Restrictions—A set of recorded restrictions that applies to a specific area or subdivision.

Declaration of Trust—A written acknowledgment by the legal title holder to property specifying the property is held in trust for the benefit of another party.

Declining Terminal Series—A type of income stream that declines progressively and systematically and eventually ceases.

Deed—A document (or written legal instrument) which, when executed and delivered, conveys an interest in or legal title to a property.

Deed, Bargain and Sale—A bargain and sale deed implicitly or explicitly asserts the grantor’s ownership of the property conveyed, but it makes no guarantees to defend the title. It provides the grantee more protection than a quitclaim deed but less than a special warranty deed. The words of conveyance “bargain and sale” distinguish a bargain and sale deed.

Deed, Quitclaim—A deed in which the grantor conveys or relinquishes all interests that he or she may have in a property, without warrant as to the extent or validity of such interests.

Deed, Tax—A deed by which title to real property, sold to discharge delinquent taxes, is transferred by a tax collector or other authorized officer of the law to the purchaser at a tax sale.

Deed, Trust—(1) Broadly, a deed by which title to property is transferred to a trustee to be held in trust. (2) Specifically, a deed by which title to property is transferred, conditionally or unconditionally, to a trustee to be held for the benefit of creditors or obligors of the grantor. (3) Loosely, the agreement made between an issuer of bonds and the holders of such bonds that is deposited with the trustee, whether or not such agreement involves the transfer of property to the trustee. Also called “deed of trust.”

Deed, Warranty—A deed containing a covenant of warranty whereby the grantor of an estate of freehold guarantees that the title that he or she undertakes to transfer is free from defects and that the property is unencumbered except as stated, and whereby the grantor, for him- or herself and his or her heirs, undertakes to defend and protect the grantee against any loss that may be suffered by reason of the existence of any other title or interest in the property existing at the time the deed was executed and not excepted therein. *Contrast deed, quitclaim.*

Deed Recordation—The process of registering a sale of real property with the appropriate public body, usually the county recorder’s office.

Deed Restriction—A limitation to property rights that transfers with the property regardless of the owner.

Deferred Maintenance—Repairs and similar improvements that normally would have been made to a property but were not made to the property in question, thus increasing the amount of its depreciation.

Degrees of Freedom (d.f.)—The number of values, in a set of observations, that could be assigned arbitrarily within the specification of a system. For example, in stratifying a sample of n objects into k strata, there are $k - 1$ degrees of freedom, because, if $k - 1$ frequencies are specified, the remaining frequency is determined by the total size n . The term is used in statistics in several slightly different senses but is important primarily only in connection with a certain aspect of inferential statistics, where it becomes a means of relating the value of a statistic that has been calculated from a sample to a table of critical values for such statistics that have been calculated for a wide range of potential sample sizes and amounts of information defined by the particular statistic of interest.

Demand—The amount of a good or service that would be purchased at various prices during a given period.

Demographics—Characteristics of human populations, for example, size, density, and distribution.

Denominator—In a fraction, the number by which another number (the numerator) is divided. For example, the denominator of $3/4$ is 4.

Densification Survey—A control or cadastral survey that establishes accuracy or additional detail in an existing survey.

Density—The total number of specific items present within a designated unit of area.

Dependent Variable—A variable, such as sale price, the value of which is predicted by the values of other variables, such as location and finished living area. Such a variable may be said to depend on the other (independent) variables.

Depletion—A decrease in land value due to the removal of trees, minerals, or other such resources. *Contrast depreciation; obsolescence.*

Depletion Rate—The periodic percentage rate at which a quantity is exhausted.

Deposition—A discovery device, conducted under oath outside a courtroom, by which one party asks questions of the other party or of a witness for the other party.

Depreciable Cost—The amount of cost to be recovered or allocated in accounting depreciation. It may represent either the total cost or cost less estimated salvage value.

Depreciation—Loss in value of an object, relative to its replacement cost new, reproduction cost new, or original cost, whatever the cause of the loss in value. Depreciation is sometimes subdivided into three types: physical deterioration (wear and tear), functional obsolescence (suboptimal design in light of current technologies or tastes), and economic obsolescence (poor location or radically diminished demand for the product).

Depreciation, Accelerated—An accounting term implying a method of accruing greater depreciation expense in the early years of a property's life and less in the later years according to an established formula.

Depreciation, Accrued—(1) The amount of depreciation, from any and all sources, that affects the value of the property in question on the effective date of the appraisal. (2) In accounting, the amount reserved each year or accumulated to date in the accounting system for replacement of a building or other asset. When depreciation is recorded as a dollar amount, it may be deductible from total plant value or investment to arrive at the rate base for public utilities.

Depreciation, Book—An accounting term referring to the total accruals recorded on the books of the owner of property summarizing the systematic and periodic expenses charged toward amortizing the investment of limited-life property over its expected life.

Depreciation, Curable—That part of depreciation that can be reversed by correcting deferred maintenance and by remodeling to relieve functional obsolescence. See **cost to cure**.

Depreciation, Economic—(1) Depreciation due either (a) to an increase in supply of the property under consideration or (b) to a reduction in monetary demand for properties of the type under consideration unaccompanied by shifts in demand from such properties to other properties and/or personal services (preferred). (2) Depreciation of any sort other than physical depreciation. Note: A depression is accompanied by economic depreciation of the type

indicated in 1(b) because of a general decline in purchasing power. Depressions are also accompanied by obsolescence because of changes in the relative distribution of purchasing power. *Contrast depreciation, physical; obsolescence.*

Depreciation, Functional—Synonymous with the preferred term obsolescence.

Depreciation, Observed—The amount of depreciation, expressed as a percentage of original or reproduction cost new, estimated on the basis of an actual inspection of the property.

Depreciation, Physical—Depreciation arising solely from a lowered physical condition of the property or a shortened life span as the result of ordinary use, abuse, and action of the elements.

Depreciation, Structural—Synonymous with the preferred term physical depreciation.

Depreciation in Accounting—(1) In accounting, a method providing for systematic allocation or recovery of cost over an asset life. (2) In appraisal, a loss of market value of an asset relative to its cost. Depreciation may stem from any cause that results in actual loss.

Depreciation Method, Annuity—A method of writing off the cost of a property over the period of its expected economic life involving: (a) Equal annual debits to depreciation expense, each being equal in amount to an annuity that could be purchased for the price of the property (less the present worth of any anticipated scrap value) and that would have a life equal to the expected economic life of the property; (b) decreasing annual credits to interest earned, each of which is equal to an assumed rate of return on the then depreciated book value of the property; and (c) increasing annual credits to depreciation reserve, each of which is equal to the difference between the amount debited to depreciation and the amount credited to interest earned. Note: For example, take a property that costs \$1,000 and has an expected economic life of ten years. From annuity tables, it is ascertained that a ten-year annuity of \$135.87 can be purchased for \$1,000, assuming an interest rate of 6 percent. For the first year, the charge to depreciation expense is \$135.87, the credit to interest earned is \$60.00, and the credit to depreciation reserve is \$75.87. For the second year, the charge to depreciation expense is \$135.87, the credit to interest earned is \$55.45, and the credit to depreciation reserve is \$80.42.

Depreciation Method, Sinking-Fund—A method of writing off the cost of a property over the period of its expected economic life involving: (a) equal annual payments into a sinking fund, the sum of which, if each be increased by compound interest from the date made until the end of such period, will equal the original cost of the property value less any anticipated scrap value at the end of its expected economic life; and (b) increasing annual depreciation charges, each of which is equal to the sum of the annual sinking fund payment and the amount of interest earned on the sinking fund during the year. Note: The procedure outlined above requires that the earnings on the sinking fund be credited directly to profit and loss. If, instead, they are offset against depreciation expense, the net depreciation charge will be constant and equal to the annual payment into the sinking fund.

Depreciation Method, Straight-Line—A method of writing off the cost of a property over the period of its expected economic life by means of equal annual charges, the sum of which is equal to the original cost of the property less any anticipated scrap value at the end of its expected economic life.

Depreciation Method, Unit of Production—A method of writing off the cost of a machine over the period of its expected economic life—such economic life being measured in terms of units of production rather than in years—by means of periodical charges measured by the number of units produced during the period, the sum of which charges is expected approximately to equal the original cost of the machine less any anticipated scrap value at the end of its expected economic life.

Depreciation Reserve—Accumulated depreciation.

Depreciation Schedules—Tables used in mass appraisal that show the typical loss in value at various ages or effective ages for different types of properties.

Depth, Standard—The depth of a standard lot (one selected as a standard either arbitrarily or because it is representative of the majority of lots within a given area).

Depth Curve—A graph of depth factors showing the estimated percentage relationships between the front-foot values of a given lot and the front-foot value of a lot of standard depth as the depth of the given lot varies. Note: Usually the depth of the given lot is plotted on the x-axis, and the percentage relationship between the front-foot value of the given lot and that of a lot of standard depth on the y-axis.

Depth Factor—The ratio of the estimated front-foot value of a lot of more or less than standard depth to the estimated front-foot value of a lot of standard depth.

Depth Influence—(1) The effect of increasing depth on the value of a lot or parcel having a given frontage. (2) The increment or decrement of value arising from a depth greater or less than that of the standard lot. See **lot, standard**.

Depth Table—A table of depth factors containing the estimated percentage relationship between the front-foot value of a lot of any given depth and the front-foot value of a lot of standard depth.

Description—See **legal description**.

Descriptive Statistics—(1) The branch of the science of statistics that is concerned only with characterizing or describing a set of data (numbers). (2) By extension, the measures used to characterize a particular set of data. Compare **inferential statistics**.

Deterioration—The impairment of condition.

Determinants of Supply and Demand—Factors that cause supply and demand to change.

Devise—A gift or transfer of real property by the owner's last will and testament.

Dichotomous Variable—See **binary variable**.

Differential Assessments—Assessments in a system of laws that require different classes of property to be assessed with different assessment ratios. The term "differential assessments" is usually reserved for systems in which the classes are broad and easily visible, such as classified property tax systems and use-value farmland assessment systems, although much the same effect is achieved by partial homestead exemptions, temporary exemptions to encourage rehabilitation or industrial location, and the like.

Digital Data—Data displayed, recorded, or stored in binary notation.

Digital Image—An image having numeric values representing tones. Each numeric value represents a different tone.

Digital Image Processing—Computer manipulation of the digital values for picture elements of an image.

Digitization—(1) The process of converting spatial information, originally compiled on orthographic materials or base maps, into digital form for incorporation into a geographic information system. (2) Referencing of ground control points or lines to a remotely sensed image.

Digitizer—A device used for scanning an image and converting it into numerical picture elements.

Diminished Utility—The difference in utility between a new improvement representing the highest and best use of the site and the existing improvement in its current condition.

Direct Equalization—The process of converting ratio study results into adjustment factors (trends) and changing locally determined appraised or assessed values to more nearly reflect market value or the legally required level of assessment. See **equalization** and **indirect equalization**.

Direct Market Method/Analysis—One of two formats of the sales comparison approach to value (the other being the comparable sales method). In the direct market method, the market analyst specifies and calibrates a single model used to estimate market value directly using multiple regression analysis or another statistical algorithm.

Direct Match—Establishes value on the basis of a direct match to an identical asset, for example, estimating the value (either retail or wholesale) of automobiles using a blue book. If the manufacturer, the model number, the age, and the accessories are known, it is simple to find the value of the subject in the various automobile blue books. Adjustments are limited to mileage and, more importantly, condition.

Discount Rate—(1) The rate of return on investment; the rate an investor requires to discount future income to its present worth. The discount rate is made up of an interest rate and an equity yield rate. Theoretical factors considered in setting a discount rate are the safe rate earned from a completely riskless investment (this rate may reflect anticipated loss of purchasing power due to inflation) and compensation for risk, lack of liquidity, and investment management expenses. The discount rate is most often estimated by band-of-investment analysis or sales comparison analysis that estimates typical internal rates of return. (2) In monetary policy, the rate that the Federal Reserve Bank charges member banks to borrow. *Compare* **recapture rate**.

Discounted Cash Flow Analysis—(1) A yield capitalization method used to calculate the present value of anticipated future cash flows. (2) Analysis of the present value of an income-producing property by isolating differences in the timing of cash flows. Net cash flows from all time intervals involved in the analysis are discounted to present value by an appropriate discount rate.

Discounting—The process of estimating the present worth of an anticipated item of income or expense by determining the amount of money which, if presently invested and allowed to accumulate at compound interest, will exactly equal the expected item of income or expense at the time when it becomes due. Note: For example, the value of \$100 due three years hence, assuming a 6 percent discount rate, is $\$100/1.06^3 = \83.96 ; the value of a perpetual annuity of \$100 is $\$100/1.06 + \$100/1.06^2 + \$100/1.06^3 + \dots = \$100/.06 = \$1,666.67$.

Discovery—(1) The process whereby the assessor identifies all taxable property in the jurisdiction and ensures that it is included on the assessment roll. (2) That part of a lawyer's trial preparation in which witnesses from the opposing side answer questions.

Discrete Data—Discrete data are qualitative items that have three or more predefined values (for example, topography: level, rolling, or steep).

Discrete Variable—A variable for which it is not conceivable that, given any two observed values, a value lying between them may occur. For example, the number of rooms in a house is a discrete variable, but the living area of the house is not. See **binary variable** and **continuous variable**.

Dispersion—The degree to which data are distributed either tightly or loosely around a measure of central tendency. Measures of dispersion include the average deviation, coefficient of dispersion, coefficient of variation, range, and standard deviation.

Displacement, Relief—The difference in the position of a point above or below the datum, with respect to the datum position of that point, due to the perspective of an aerial photograph. Relief displacement is radial from the photo center. In truly vertical photography, relief displacement is radial from the principal point of the photograph.

Display—A graphic representation of output data from a device or system, for example, on a computer screen. The cathode ray tube (CRT) is a widely used display device for output of “electronic” sensor data.

Dissimilarity Function—An algorithm used to assign an index of dissimilarity (or similarity) to properties as compared to a subject.

Distortion—Any shift in the position of an image on a photograph that alters the perspective characteristics of the photograph. Causes of image distortion include lens aberration, differential shrinkage of film or paper, and motion of the film or camera.

Distribution-Free Statistics—A set of robust nonparametric methods whose interpretation or reliability does not depend on stringent assumptions about the distribution of the underlying population from which the sample has been drawn. See **parametric statistics**.

Divided Rights—Rights to property that have been divided among several owners in partnerships, joint tenancy, tenancy in common, and time-share units.

Dividend Yield—The ratio of cash dividends to cash invested.

Dividends—Equity investment income earnings.

Domain, Eminent—See **eminent domain**.

Domicile (or Domicil)—That particular locality wherein a person is legally deemed to have his or her true home or place of abode. Note: A person always has one, and only one, domicile. Domicile at one place is not lost until a new domicile is established else-

where. In case one has more than one place of abode, domicile is determined with reference to one's attitude rather than in accordance with one's physical presence in one or other of such places. Compare **residence**.

Dominant Estate (Affirmative Easement)—The right to perform a specific action on a property owned by another.

Doomage—See **assessment, dooamage**.

Doppler Shift—The difference between the frequency of radiation received at a point and the frequency of the radiation at its source, when observer and source are moving with respect to each other.

Dummy Variable—See **binary variable**.

Duty, Ministerial—See **ministerial duty**.

E

Earnings—A general term embracing revenue, profit, or net income.

Earnings-Price Ratio (E/P)—The ratio of earnings per share available to common stockholders of a specific company for an accounting period to the market price per share of the common stock of that company. The reciprocal of the E/P ratio is the price-earnings ratio (P/E). The E/P ratio is a direct capitalization rate for equity and not a yield rate.

Earnings Statement—An accounting statement of income and expense (or profit and loss).

Easement—(1) Broadly, any nonpossessory interest held by one person in land possessed by another whereby the first person is accorded partial use of such land or the second person is restricted in the use of his or her land. (2) A right held by one person to use the land of another for a specific purpose, such as access to other property. (3) In a restricted sense, a nonpossessory interest held by one person, by reason of his or her possession of a given piece of land (the dominant estate), in a second piece of land possessed by another (the servient estate), whereby the first person is accorded partial use of the second piece of land without the privilege of taking a portion of its substance. Note: The nonpossessory interests in land that are included in the first of the above definitions but not

in the second are: (1) servitudes, in which there is not necessarily a dominant estate in land; (2) profits a prendre, which are rights to take the substance of, or income from, the servient estate; and (3) restrictions, which limit the possessor of the servient estate in the use of his or her land without according its partial use to the owner of the nonpossessory interest.

Easement, Appurtenant—Gives one person the right to use another's land so long as the first person owns a specified piece of property. The easement attaches to the specified property, not to the person who owns it; when the title transfers, the easement also transfers.

Easement by Necessity—Arises when an owner divides his or her property, sells part of it, and the purchaser cannot get to the part he or she bought without crossing the seller's property. The purchaser acquires an easement over the seller's property.

Easement by Prescription—Arises when a non-owner continuously and openly uses property over a period of time and is not impeded by the property owner.

Easement in Gross—A right to use another's property, usually for a specified purpose. Utility easements and railroad rights-of-way are examples of easements in gross.

Economic Area—A geographic area, typically encompassing a group of neighborhoods, defined on the basis that the properties within its boundaries are more or less equally subject to a set of one or more economic forces that largely determine the value of the properties in question.

Economic Life—The period during which a given tangible asset, building, or other improvement to property is expected to contribute (positively) to the value of the total property. This period is typically shorter than the period during which the improvement could be left on the property, that is, its physical life.

Economic (External) Obsolescence—(1) A cause of depreciation that is a loss in value as a result of impairment in utility and desirability caused by factors outside the property's boundaries. (2) Loss in value of a property (relative to the cost of replacing it with a property of equal utility) that stems from factors external

to the property. For example, a buggy-whip factory, to the extent that it could not be used economically for anything else, suffered substantial economic obsolescence when automobiles replaced horse-drawn buggies.

Economic Rent—See **rent, economic**.

Edit—See **data edit** and **procedural edit**.

Effective Age—The typical age of a structure equivalent to the one in question with respect to its utility and condition, as of the appraisal date. Knowing the effective age of an old, rehabilitated structure or a building with substantial deferred maintenance is generally more important in establishing value than knowing the chronological age.

Effective Gross Income (EGI)—The potential gross rent, less vacancy and collection loss, plus miscellaneous income.

Effective Tax Rate—(1) The tax rate expressed as a percentage of market value; will be different from the nominal tax rate when the assessment ratio is not equal to 1. (2) The relationship between dollars of tax and dollars of market value of a property. The rate may be calculated either by dividing tax by value or by multiplying a property's assessment level by its nominal tax rate.

Effective Yield—The actual return on an investment rather than the yield anticipated or promised when the investment is made. For example, when a bond sells for more than its face value, the effective yield will be below the coupon rate.

Egress—An outlet or exit or means of exiting.

Elasticity—(1) The responsiveness of supply and demand to changes in price. Supply or demand that changes rapidly in response to price changes is "elastic." Supply or demand that changes slowly in response to price changes is "inelastic." (2) A measure of the responsiveness of tax yields to changes in economic conditions. The yield of an elastic tax increases rapidly in a growing economy. The yield of an inelastic tax increases slowly. Often measured by the formula: percent change in tax ÷ percent change in personal income.

Electromagnetic Radiation (EMR)—(1) Energy propagated through a vacuum or material medium in the form of an advancing interaction between electrical and magnetic fields. Includes radio waves, heat waves, light waves, and the like, depending on frequency. The term “radiation” is used commonly for this type of energy, although it actually has a broader meaning. Also called “electromagnetic energy” or “simple radiation.” (2) Waves emitted by various sources, including powerlines, radio transmitters, and microwave sources. Property value may be affected by proximity to sources.

Electromagnetic Spectrum—The ordered array of all electromagnetic radiation that propagates at the velocity of light and is characterized by wavelength and frequency. Wavelengths in the range of 0.3–15.0 micrometers are used most frequently in remote sensing.

Elevation—The distance of a point above a specified surface of constant potential; the distance is measured along the direction of gravity between the point and the surface.

Ellipsoid—A closed surface whose planar sections are either ellipses or circles.

Ellwood Formula—See **mortgage equity analysis**.

Emblems—Annual crops.

Eminent Domain—The right by which a sovereign government, or some person acting in its name and under its authority, may acquire private property for public or quasi-public use upon payment of reasonable compensation, but without consent of the owner. See **condemnation**.

Encroachment—The unauthorized trespassing of an improvement on the domain of another person’s land.

Encumbrance—Any limitation that affects property rights and value.

Engineering Breakdown Method—A detailed age/life method that can be used in conjunction with the quantity survey or unit-in-place methods of estimating replacement cost new.

Enhancement—The process of altering the appearance of an image so that the interpreter can extract more information. Enhancement may be done by digital or photographic methods.

Enterprise Zone—A designated area within a depressed, usually inner-city, area in which firms are given favorable tax treatment and freedom from a number of planning constraints.

Entrepreneur—One who assumes the risks and management of an enterprise or business.

Environmental Assessment—A report showing the results of investigation into environmental contamination. This report is often required by the EPA and other regulatory agencies to establish the extent of contamination. Depending on the type and extent of contamination suspected, “Phase I” or more extensive “Phase II” assessments may be required. See **Phase I and Phase II reports**.

Environmental Contaminant—Any tangible substance or intangible occurrence that may degrade property, resulting in decreased utility or having an effect on value. See **physical contaminant** and **nonphysical contaminant**.

EPA—The United States Environmental Protection Agency.

Equalization—The process by which an appropriate governmental body attempts to ensure that all property under its jurisdiction is assessed at the same assessment ratio or at the ratio or ratios required by law. Equalization may be undertaken at many different levels. Equalization among use classes (such as agricultural and industrial property) may be undertaken at the local level, as may equalization among properties in a school district and a transportation district; equalization among counties is usually undertaken by the state to ensure that its aid payments are distributed fairly.

Equalized Values—Assessed values after they have all been multiplied by common factors during equalization.

Equilibrium—A state of rest achieved by a balance of the forces that impel change. A market is said to be in equilibrium when the factors of production are used in the production of an array of consumer goods that maximize consumer welfare.

Equitable Ownership—The interest or estate of a person who has a beneficial right in property legally owned by another, for example, the beneficiary of a trust has equitable ownership in the trust property.

Equity—(1) In assessment, the degree to which assessments bear a consistent relationship to market value. Measures include the coefficient of dispersion, coefficient of variation, and price-related differential. See **horizontal inequity** and **vertical inequity**. (2) In popular usage, a synonym for tax fairness. (3) In ownership, the net value of property after liens and other charges have been subtracted.

Equity Capitalization Rate—Equity component of an overall direct capitalization rate. Computed by dividing equity earnings by the market value of equity.

Equity Dividend—A synonym for before-tax cash flow.

Equity Market Multiple (P/Book)—Sometimes referred to as the “market-to-book multiple.” The ratio of the current market price per share to net book value per share of common stock.

Equity of Redemption—A right recognized by courts of equity whereby a person who has transferred legal title to property as security for an obligation is permitted, after defaulting on the obligation, to retain possession of the property for such period as may be prescribed by law or by the court and to reacquire legal title to the property upon fulfillment of the obligation within such period.

Equity Yield Rate—(1) The required rate of return on equity capital. A component of the capitalization rate (or discount rate or mortgage-equity overall rate) that must be separately specified in band-of-investment analysis and mortgage-equity analysis. (2) The equity yield rate reflects all yield to equity, whether from annual cash flows or future reversions; considers the effect of debt financing on the cash flow of the equity investor.

Error—The difference between the actual value of a variable and the expected value of the variable exclusive of sampling problems. Errors may be positive or negative, although in common speech taking the absolute value of the errors is sometimes implied. In multiple regression analysis, the term “error” is often used loosely to mean residual.

Escalation Clause—A clause in an agreement that allows for an increase.

Escape Assessment—An assessment made outside the regular assessment period in order to correctly tax property that was not assessed during the regular assessment period.

Escheat—The right to have property revert to the state for nonpayment of taxes or when there are no legal heirs of someone who dies without leaving a will.

Escrow—(1) A written instrument that by its terms imparts a legal obligation but that is placed by the grantor in the hands of a third party, to be held by him or her until the occurrence or non-occurrence of a specified event, and then only to be delivered to the grantee and to take effect. (2) The agreement under which such instrument is so placed, held, and conditionally delivered.

Estate—(1) The interest which a person possesses in a single concrete article of property. (2) The aggregate interests of any person in articles of property of all descriptions. (3) The aggregate property of all descriptions left by a decedent. See **tenancy**; **real estate**.

Estate, Leasehold—Any possessory interest in land less than estate of freehold, that is, an estate for years, an estate from year to year (periodic estate), an estate at will, or an estate at sufferance. See **leasehold**.

Estate, Real—See **real estate**.

Estate, Trust—See **trust estate**.

Estate for Years—A possessory interest in land which cannot endure beyond a date specified in the conveyance or a date precisely determinable at the time the interest becomes possessory.

Estate in Fee Simple—An inheritable, possessory interest in land that may endure until the extinction of all lineal and collateral heirs of the first owner and that may be freely conveyed by its owner; the largest possible estate in land.

Estate in Severalty—Any estate held by a single person is an estate in severalty.

Estate of Freehold—Any one of the three types of possessory interests in land—fee simple, fee tail, and estate for life—that in feudal times were granted only to freemen. Note: Estates of freehold are said to be estates of indefinite duration and any other estate is said to be “less than freehold.”

Estate Tax—A tax based on the value of the estate of a deceased person.

Euclidean Distance Metric—A measure of straight-line distance between two points. In property valuation, it is used to find the nearest neighbor or similar property based on an index of dissimilarity between property location or attributes. When using multivariate selection, the squared difference is divided by the standard deviation of the variable so as to normalize the differences. See **Minkowski Metric**.

Examination—A limited audit qualified by words or phrases indicating the character of the limitation.

Examine—To prove records or inspect documents, procedures and scope, for the purpose of arriving at opinions of accuracy, propriety, sufficiency, or the like.

Excess Condemnation—The taking of more property, by right of eminent domain, than is necessary for the intended purpose.

Exemption, Absolute—A complete or total exemption that excludes an entire property from taxation without regard to its value; a reduction in the property tax base.

Exemption, Homestead—Freedom of part or all of the value of a homestead from property taxation; a reduction in the property tax base.

Exemption, Industrial—An exemption granted to property used in industrial pursuits as a means of stimulating industrial development or inducing relocation of plants; a reduction in the property tax base. See **enterprise zone**.

Exemption, Institutional—Freedom from the property tax granted to property owned and/or used by charitable, educational, or religious institutions or agencies, in recognition of the public services rendered by them; a reduction in the property tax base.

Exemption, Personal—Freedom from the property tax of some or all classes of property in limited or unlimited amounts by reason of its ownership by natural persons or particular groups of natural persons, or persons with certain attributes; a reduction in the property tax base.

Exemption, Pseudo—Freedom from the property tax granted to property in recognition of the fact that it is taxed either directly or indirectly by other means; a reduction in the property tax base. Sometimes called “technical exemption.” Note: For example, public utility property may be exempt from ad valorem property taxation but subject to a gross earnings tax in lieu thereof; corporation stock may be exempt in recognition of the taxation of the corporate assets.

Expense—A cost, or that portion of a cost, which, under accepted accounting procedures, is chargeable against income of the current year.

Expense Account—An accounting record maintained for recording particular expenses.

Expense Ratio—The ratio of expenses to gross income. A “typical” expense ratio is the relationship of normal expenses to effective gross income.

Expert Witness—One who is qualified to render expert testimony.

Exploratory Data Analysis—That part of concerned with reviewing the data set to isolate structures, uncover patterns, or reveal features that may improve the confirmatory analysis.

Exponent—A symbol usually written to the right and above an expression to indicate particular mathematical operations. For example, 6^2 means 6×6 , or six squared. Fractional exponents indicate inverse operations; for example, an exponent of $1/2$ signifies a square root. Exponents are also called powers. Valuation models make use of the following properties of exponents: A number raised to the exponent 0 is always 1.00; zero raised to any power is zero; any number raised to the power 1 is itself. Negative numbers cannot have exponents less than 1.

Expropriation—See **condemnation**.

External Diseconomies—Forces outside the activities of any single firm that cause resource prices to rise.

External (Economic) Obsolescence—The loss of appraisal value (relative to the cost of replacing a property with property of equal utility) resulting from causes outside the property that suffers the loss. Usually locational in nature in the depreciation of real estate, it is more commonly marketwide in personal property, and is generally considered to be economically infeasible to cure.

External Economies—Forces outside the activities of any single firm that cause resource prices to fall.

F

Facade—The main exterior face of an improvement.

Face Value—See **value, face**.

Factor—(1) An underlying characteristic of something (such as a house) that may contribute to the value of a variable (such as its sale price), but is observable only indirectly. For example, construction quality is a factor defined by workmanship, spacing of joists, and materials used. Factor definition and measurement may be done subjectively or by a computer-assisted statistical algorithm known as factor analysis. (2) Loosely, any characteristic used in adjusting the sale prices of comparables. (3) The reciprocal of a rate. Assessments may be equalized by multiplying them by a factor equal to the reciprocal of the assessment ratio, and value can be estimated using the income approach by multiplying income by a factor equal to the reciprocal of the discount rate.

Factor, Depth—See **depth factor**.

Factors of Production—The four ingredients available for the production of goods and services that satisfy human wants: land, labor, capital, and management. Also called “agents of production.”

Fair Rate of Return—A fair rate of return is that amount of profit that represents a fair, reasonable, and appropriate compensation to the owners for (1) their investment in the enterprise, (2) their assumption of the risks and uncertainties of operation, and (3) management functions not otherwise rewarded.

Fair Return—As used with regulated properties such as utility companies, fair return denotes an amount of income a regulatory agency authorizes as sufficient for a utility to attract necessary additional capital and render adequate service.

Fairness—See **equity**.

False Color Image—A color image in which the dye color or ink is not the same as the scene color. Digital processing may produce false color images where the infrared wavelengths are represented by red, the red band as green, and the green as blue.

Fannie Mae—See **Federal National Mortgage Association**.

Feasibility Analysis—A study of the cost-benefit relationship of an economic endeavor.

Federal Home Loan Mortgage Corporation (FHLMC) (Freddie Mac)—An organization that facilitates secondary residential mortgages, for savings and loan associations, to increase availability of residential mortgage financing.

Federal National Mortgage Association (FNMA) (Fannie Mae)—A quasi-governmental agency that purchases mortgages from originators; intended to increase liquidity in the home mortgage market.

Federal Rectangular Survey System—A rectangular grid system, the basic elements of which are townships approximately six miles on each side. Each township is divided into thirty-six sections, nominally one mile square and containing 640 acres. Sections are further subdivided into quarter sections, and so on.

Fee—(1) A charge imposed by a government for the performance of a specific nonproprietary act that is made in recognition of the special benefit conferred by such act, or the special cost incurred thereby, and in an amount intended to be substantially equal to or less than the incurred cost. (2) A form of compensation for occasional personal services, especially of public officers or professional persons, measured in terms of services performed rather than in terms of time required for their performance. (3) An estate in fee simple or a corresponding personal property interest.

Fee Appraisal—Appraisal of properties one at a time for pay.

Fee Simple—In land ownership, complete interest in a property, subject only to governmental powers such as eminent domain. Also fee simple absolute. See **estate in fee simple**; **fee**; and **absolute ownership**.

Fee Simple Condition Subsequent—Gives an owner fee simple title to property so long as a specified event (usually a change in use) does not occur. The person granting fee simple condition subsequent title must file suit to recover ownership if the condition is not met.

Fee Simple Determinable—Identical to fee simple condition subsequent except that the grantor (the original owner) does not need to file suit to regain title.

Fee Simple Title—Fee simple title indicates ownership that is absolute and subject to no limitation other than eminent domain, police power, escheat, and taxation.

Feedback—See **adaptive estimation procedure**.

Ferret, Tax—A special agent who is employed by a government to discover taxable property escaping assessment by the regular assessing agencies and who is compensated on the basis of the assessment of property so discovered or the amount of taxes levied or collected thereon.

Fiduciary—Any person who occupies a position of special trust in certain of his or her relationships to another person or persons, for example, an administrator, executor, guardian, receiver, or trustee.

Field Canvass—The practice of collecting the data needed in assessment operations by systematically going from property to property coding the specified information.

Field Review—The practice of reviewing the reasonableness of assessments by viewing the properties in question, sometimes by examining their interiors but more often by looking at their exteriors.

Film—The light-sensitive photographic emulsion and its transparent base.

Finished Goods—Inventory at the end stage of a manufacturing process. Finished goods are the result of combining raw materials with labor, capital, machine time, and other components of production.

First In First Out (FIFO)—An inventory cost procedure in accounting whereby unsold inventory, including inventory carried over from prior years, is valued at the prices most recently paid for inventory purchases.

Fiscal Year—The period covering a full year (not necessarily a calendar year) to which the annual budget and accounts apply. At the end of the fiscal year, the books of account of a government, person, firm, or association are closed in order to determine financial condition and the results of current operations.

Fixed Assets—(1) Personal property that has been brought to the point of highest and best use, that is, fully installed and used to produce income in an economically feasible manner. (2) In a business, permanent assets required for the normal conduct of a business.

Fixed Liability—Long-term (over one year's duration) debts.

Fixed Operating Expenses—Fixed operating expenses are those costs of doing business that do not vary with occupancy or output and that have to be paid whether the property is occupied or vacant. Fire insurance and property taxes are examples.

Fixture—(1) Attached improvements that can be real or personal property. If attached to the realty in such a manner that its removal would damage the real property or the fixture, the fixture is realty. If the fixture is removable without damage, it is generally considered personal property. (2) An item of equipment that, because of the way it is used, the way it is attached, or both, has become an integral part of a building or other improvement. A fixture, such as a bathtub, is classified as real property, but trade fixtures (fixtures used in the conduct of business) are classified as personal property.

Floor Area of Building—The total area of all floors within the finished portion of a building, measured to the center of party walls and to the outside surfaces of other exterior walls. *Compare* **cubic content of building**; **ground area of building**.

Floor Planned Goods—Inventory in the possession of a seller in which the seller has no equity. They differ from consigned goods in that the seller does have control of the merchandise, may set the selling price, and earn profit rather than commission. Such property may not be reported by the business and may not be easy to locate in the accounting records. Therefore, the assessor must be careful not to overlook it.

Flowchart—Any of a number of kinds of graphic descriptions of an algorithm, showing the operations, data flow, equipment, and so on.

Focal Length—The distance measured along the lens axis from the rear nodal point of the camera lens to the plane of best average definition over the entire field used in the aerial camera.

Foot, Front—See **front foot**.

Foot, Unit—See **unit foot**.

Foreclosure—The legal process by which a lien on a property is enforced.

Forfeiture—Reversion of property (to the state) based on a violation of a law or a stipulated restriction by the owner.

Formaldehyde—Chemical constituent of certain insulating materials and glues. May enter air and become a contaminant.

Format—The size and scale of an image.

Fractional Appraisal Method—Appraisal of the individual components of a property rather than appraisal of the entire system or unit as a single operating entity.

Fractional Assessments—Assessments that by law or by practice have assessment ratios different from 1. Usually the assessment ratio is less than 1 and, if assessment biases are present, different classes of property may have different fractional ratios. Fractional assessments are often condemned as offering a way to obscure assessment biases.

Fractional Section—A subdivision of a township containing more or less than 640 acres of land. Typically, accounting for the overage or deficiency in acreage is done on the north and/or west side of a section, and fractional sections are found on the north and/or west side of a township.

Franchise—A privilege or right that is conferred by grant of government on an individual or a group of individuals; usually an exclusive right to furnish public services or to sell a particular product in a certain geographical area.

Franchise, Corporate—The privilege belonging to a corporation by virtue of which it is permitted to exist and act as a legal entity distinct from its owners.

Franchise, Special—The exclusive privilege conferred by a government on one or more persons by which public property is used in furnishing a public service for private profit.

Freddie Mac—See **Federal Home Loan Mortgage Corporation**.

Free and Clear—Property that is unencumbered by any liens or mortgages.

Freehold—See **estate of freehold**.

Freight In—Freight paid on incoming shipments, treated as an element of cost of goods received.

Frequency Distribution—A table showing the number or percentage of observations falling in the boundaries of a given set of classes. Used in ratio studies to summarize the distribution of the individual ratios. See **class**; **histogram**; and **mode**.

Front Foot—The unit or standard of linear measure used in measuring frontage. *Compare* **unit foot**.

Frontage—The extent of a parcel of land along a street, road, river, or other traffic artery on which the parcel is said to face.

Full Disclosure Requirements—See **truth-in-taxation requirements**.

Full-Market-Value Assessment Standard—Assessments for which a law or other standard requires that the assessment ratio equals one.

Functional Obsolescence—Loss in value of a property resulting from changes in tastes, preferences, technical innovations, or market standards.

Functional Organization—A method of organizing personnel and practices under which the primary division is what is done to achieve the goals of the organization (such as producing the assessment roll) rather than where the activities are done. The latter method is called geographical organization. Functional organization of assessment usually means that special divisions are

responsible for appraising properties by type: personalty, residential property, agricultural property, commercial property, industrial property, and vacant land. Improved land is generally the responsibility of the appraiser of the improvement.

Functional Specialization—In assessment, appraiser specialization by type of property being appraised; sometimes also used to mean specialization by appraisal approach used, namely cost, income, or sales comparison. *Compare geographical specialization.*

Functional Utility—The ability of improvements to satisfy market standards and demands.

Furlong—A land measure of 1/8 mile or ten chains or forty rods.

Future Gross Income—The estimated gross income for a particular future year.

Future Net Income—The estimated net income for a particular future year.

Future Worth of 1—(Also called the compound amount of 1 or the amount of 1 at compound interest.) The amount to which one dollar will grow at compound interest over a specified number of years and at a specified interest rate.

Future Worth of 1 per Period—(Also called compound amount or accumulation of 1 per period.) The amount to which a series of equal periodic payments will accumulate at compound interest for a specified number of years and at a specified interest rate.

G

Gantt Chart—A form of bar chart used in project management. Each element (task) of a project is represented by a horizontal bar. The bars are placed on the chart according to a time scale. The left end of each bar indicates when the task is to begin. The length of each bar indicates the duration of the task. The right end of each bar indicates when the task is to be completed.

General Equilibrium—Simultaneous equilibrium of all individual economic units in the economy. Implies a condition in which consumers maximize their welfare given their income, producers maximize profits, and resources are employed in their most productive uses.

General Equilibrium Analysis—An economic analysis that attempts to understand how resources should be allocated to maximize a society's welfare.

General Journal—The book of original (chronological) entry listing all transactions and indicating the accounts to which they belong.

General Ledger—A book of accounts in which all the transactions of a business enterprise are classified in detail or in summary as final entry from original (chronological) postings.

General Tax Policy—Any purposeful course of action by governmental bodies that affects or determines the way taxes are created, levied, collected, or spent.

General Warranty Deed—The most common type of deed, a general warranty deed, implicitly promises that (1) the grantor owns the property and may convey title, (2) there are no hidden liens against the property, (3) no one else has better title to the property, (4) the grantor will obtain and deliver any documents needed to make good the transfer, and (5) the grantor will be liable for damages if future competing claims to the property prove valid.

Generally Accepted—Given authoritative recognition by professional bodies such as the Financial Accounting Standards Board and its Generally Accepted Accounting Principles (GAAP).

Geocode—A code used to locate or identify a point, such as the center of a parcel of real estate, geographically. The code is composed of the east-west and north-south coordinates of the point relative to some standard point of reference.

Geocoding—Geographical referencing or coding of data.

Geodesy—(1) The science concerned with determining the size and shape of the earth. (2) The science that locates positions on the earth and determines the earth's gravity field.

Geodetic Control Network—A system of monuments that are used as reference points in calculating, through triangulation, the location of other points on surveys and maps.

Geographic Coordinates—See **rectangular coordinates**.

Geographic Information System (GIS)—(1) A database management system used to store, retrieve, manipulate, analyze, and display spatial information. (2) One type of computerized mapping system capable of integrating spatial data (land information) and attribute data among different layers on a base map.

Geographical Specialization—Specialization of personnel, especially appraisers, by region rather than by type of property. *Compare functional specialization.*

Geoid—A theoretical figure of the earth using a continuous surface that is perpendicular at every point to the direction of gravity. The geoid would coincide with the ocean surface if the latter were undisturbed and affected only by the earth's gravity field.

Geometric Mean—A measure of central tendency computed by multiplying the values of all of the observations by one another and then taking the result to an exponent equal to one divided by the number of observations. The geometric mean is particularly appropriate when a typical rate of change is being calculated, such as an inflation rate or a cost index.

Geometrical Transformations—Adjustments made in image data to change its geometric (spatial) character.

GIM—*See gross income multiplier.*

Ginnie Mae—*See Government National Mortgage Association.*

GIS—*See geographic information system.*

Global Positioning System (GPS)—A navigational and positioning system by which the location of a position on or above the earth can be determined by a special receiver at that point interpreting signals received simultaneously from several of a constellation of special satellites.

Globe—A spherical body.

Going-Concern Value—The enhanced or synergistic value of assets due to their existence within, or assemblage into, an operating and economically viable business that is expected to continue its operation in the future with no intention or necessity of liquidation or the material alteration of the scale of operation.

Goodness-of-Fit Statistics—Statistics used in multiple regression analysis and other kinds of statistical modeling to express the amount, and hence the importance, of the errors or residuals for all the predicted and actual values of a variable.

Goods—Items of tangible personal property that have market value; items intended for resale (merchandise items).

Goods Held for Sale or Resale—Any inventory in the hands of a wholesaler, distributor, or retailer after having passed through one or more other levels of trade.

Goods in Process—Inventory, formerly raw materials, that has begun to undergo the manufacturing process that will result in finished goods.

Goods in Storage—Merchandise or other assets intended for resale, but held in facilities designed solely to hold merchandise. Goods in storage may also legally be goods in transit.

Goods in Transit—Merchandise items that are in the hands of a common carrier or other carrier. In most such situations, the goods cannot be assessed if they have not reached their destination.

Goodwill—The economic advantage over competitors that a business has acquired by virtue of habitual patronage of customers.

Government National Mortgage Association (GNMA) (Ginnie Mae)—A government-owned and government-financed agency that subsidizes mortgages through its secondary mortgage market and issues federally insured mortgage-backed securities. This agency falls within the Department of Housing and Urban Development.

Government Survey—A ground survey authorized by the Continental Congress in 1775 and by subsequent acts; conducted in Florida, Alabama, Mississippi, and all states (except Texas) north of the Ohio or west of the Mississippi, in which the land was divided into townships approximately six miles square, each township normally containing thirty-six sections and each section normally containing 640 acres. See **Public Land Survey System**.

Government Survey System—A general term referring to such surveys as the federal rectangular survey system in the United States.

Grade—See **quality class**.

Grand List—See **list, grand**.

Grantee—One who acquires property by voluntary conveyance.

Grantee Index—Lists alphabetically the name of every grantee whose name appears on a deed recorded for the year the index covers.

Grantor—One who voluntarily conveys property, whether by sale, gift, lease, or otherwise.

Grantor Index—Lists alphabetically the name of every grantor whose name appears on a deed recorded for the year the index covers.

Graticule—A network of lines on a map representing geographic parallels and meridians.

Green Buildings— Buildings that incorporate practices said to help the environment, reduce energy use and costs by energy-efficient design, contribute to a healthier and more pleasant environment for occupants, contribute to increased productivity, and experience faster leasing at more favorable rates for the lessor.

Grid—(1) A network composed of two families of lines such that a pair of lines, one from each family, intersects in no more than two points. (2) In geodesy, a grid composed of two sets of uniformly spaced straight lines intersecting at right angles (derived from a square Cartesian coordinate system).

Grid Tick—A very short line (tick) drawn perpendicularly to the neat line of a map, to indicate a point on the neat line through which a line of a grid would pass if drawn. Grid ticks come in pairs, one on each of two opposite neat lines.

GRM—See **gross rent multiplier**.

Gross—The total units with no allowances or deductions.

Gross Assessed Value—The official dollar value listed on an assessment roll, including any partial exemptions.

Gross Domestic Product—The aggregate annual flow of a country's wealth, measuring value of output as the sum of spending by consumers, investors, and government, or as the sum of factor incomes.

Gross Income Multiplier (GIM)—A capitalization technique that uses the ratio between the sale price of a property and its potential gross income or its effective gross income. Once calculated for several similar assets, a GIM may be multiplied against the income of a property to obtain an estimate of value.

Gross Leasable Area—All area within the outside walls, including lobbies, washrooms, janitor's closets, and so on, but excluding building stairs, fire towers, elevator shafts, flues, vents, stacks, pipe shafts, and vertical ducts if they serve more than one floor.

Gross Lease—See **lease, gross**.

Gross Rent Multiplier (GRM)—(1) The factor by which gross rent is multiplied in order to obtain an estimate of value (2) The ratio between sale price and potential gross income or effective gross income. By convention, the gross rent multiplier is typically the term used when developing the relationship based on monthly rent.

Ground Area of Building—The total area included at mean grade level within the outside surfaces of the exterior walls and the center lines of party walls, not including the area under open porches or steps or in courts or shafts. *Compare* **cubic content of building; floor area of building**.

Ground Control Point (GCP)—A geographic feature of known location that is recognizable on images and can be used to determine geographic corrections.

Ground Data—Information concerning the actual state of ground conditions at the time of a remote sensing overflight.

Ground Receiving Station—A facility that records image data transmitted by satellites.

Ground Rent—See **rent, ground**.

Ground Resolution Cell—The area on the terrain that is covered by the instantaneous field of view of a detector. Size of the ground resolution cell is determined by the altitude of the remote sensing system and the instantaneous field of view of the detector.

Guideline Companies—Similar companies used for comparison purposes.

H

Habendum Clause—The clause in a real estate document that defines the extent of ownership interest conveyed.

Harmonic Mean Ratio—The reciprocal of the arithmetic mean of the reciprocals of each value in the data set. The harmonic mean ratio is less affected by extreme values in the data set than the arithmetic mean or the geometric mean.

Harper Rule—An empirical rule that states that the value of a lot varies directly with the square root of its depth. For example, if a lot 100 feet deep is worth \$100 per front foot, then a lot 49 feet deep is worth seven-tenths as much, or \$70 per front foot. *Compare* **Hoffman rule**; **4-3-2-1 rule**; **one-third, two-thirds rule**.

Hazardous Substances—Any substance designated under various federal acts as toxic or hazardous, including hazardous solid waste, toxic air pollutants, and imminently hazardous chemicals and mixtures. This term does not include petroleum and natural gas products or synthetic fuel gas.

Hazardous Waste—A solid waste that may pose a present or potential hazard to health or to the environment. This includes any solid waste that is ignitable, corrosive, toxic, or reactive.

Hectare—Unit of land measure equal to 100 meters square. Equivalent to 2,471 acres.

Hedonic Model—Hedonic pricing attempts to take observations of the overall goods or services and obtain implicit prices for the goods and services. Prices are measured in terms of quantity and quality. When valuing real property, the spatial attributes and property-specific attributes are valued in a single model. Calibration of the attribute components is performed statistically by regressing the overall price onto the characteristics.

Heterogeneous—Unlike; without interrelation. The opposite of homogeneous.

Heteroscedasticity—The quality of a dependent variable having inconstant variance for all values of the independent variables. The opposite of homoscedasticity.

Highest and Best Use—A principle of appraisal and assessment requiring that each property be appraised as though it were being put to its most profitable use (highest possible present net worth), given probable legal, physical, and financial constraints. The principle entails first identifying the most appropriate market, and, second, the most profitable use within that market. The concept is most commonly discussed in connection with underutilized land.

Histogram—A bar chart or graph of a frequency distribution in which the frequencies of the various classes are indicated by horizontal or vertical bars whose lengths are proportional to the number or percentage of observations in each class.

Historical Age—The number of years elapsed since an original structure was built. Synonyms are actual age and chronological age. See **cost, original**.

Hoffman-Neill Rule—An extension of the Hoffman Rule to cover lots of depths other than half that of the standard lot.

Hoffman Rule—An empirical rule that ascribes two-thirds of the value of a lot to the front half. *Compare* **Harper rule; Hoffman-Neill rule; 4-3-2-1 rule; one-third, two-thirds rule**.

Holding Period—The length of time an investor expects to own a given property before selling it to someone else.

Holdout Sample—See **control sample**.

Homestead—A building occupied by the owner of the freehold and his or her family, with the primary intention of making it their home, together with the parcel of land on which it stands and the other improvements appurtenant to it. See **estate of freehold**. Note: This is a term variously defined by the several states and for several purposes. Most definitions pertain to the exemption of property from levy and sale and, as such, are not concerned with the nature of the estate that a householder owns in his or her home. The above definition, which is intended only for purposes of homestead tax exemption laws, requires further elaboration to indicate what constitutes a family, what constitutes occupancy primarily as

a home, how large a parcel of land can be included as part of the homestead, and what constitutes an improvement appurtenant to the home. There is as yet no substantial agreement on these points among the states.

Homogeneous—Possessing the quality of being alike in nature and therefore comparable with respect to the parts or elements; said of data if two or more sets of data seem to be drawn from the same population; also said of data if the data are of the same type (that is, if counts, ranks, and measures are not all mixed in together).

Homoscedasticity—The quality of a dependent variable having constant variance for all values of the independent variables. For example, if regression residuals were plotted against living area, a band of uniform width would indicate homoscedasticity; a trapezoid would indicate heteroscedasticity.

Horizontal Inequity—Differences based on criteria other than value range in the levels of assessment of groups of properties. For example, properties in one neighborhood may have a higher level of assessment than similar properties in another neighborhood. See **vertical inequity**.

Hotspot—A geographic area where sales activity is unusually strong and, usually, market values are rising and assessment ratios are declining.

Household Goods—Household goods are furnishings, appliances, utensils, and other tangible personal property used primarily in or around a residence by the residents and their guests.

Hybrid Model—A model that incorporates both additive and multiplicative components. See **additive model** and **multiplicative model**.

Hypothesis—A statement in inferential statistics the truth of which one is interested in determining. The usual procedure is to state what one chooses to accept in the absence of sufficient evidence to the contrary (the statement is called the null hypothesis), specify

the relationship or statement to be proved (the alternative hypothesis), and analyze the available data to determine whether the null hypothesis can be rejected (and hence the alternative hypothesis accepted) at some confidence level.

I

IAAO—International Association of Assessing Officers.

Image—The representation of a scene as recorded by a remote sensing system. Although image is a general term, it is commonly restricted to representations acquired by nonphotographic methods.

Image Enhancement—Any one of a group of operations that improves the detectability of the targets of interest. These operations include, but are not limited to, contrast enhancement, edge enhancement, spatial filtering and noise suppression, and image sharpening.

Imagery—Collectively, the representations of objects reproduced electronically or by optical means on film, electronic display devices, or other media.

Improper Expenses—Expenses incurred in the ownership of income-producing property that are not used to calculate value in the income approach.

Improvement—Anything done to raw land with the intention of increasing its value. A structure erected on the property constitutes one very common type of improvement, although other actions, such as those taken to improve drainage, are also improvements. Although such cases are rarely intentional, “improvements” can conceivably diminish the value of the land; note, however, that easements restricting the use and value of land are not considered improvements.

Improvement to Land—Designed to enhance a site’s utility for general use (fill, water, and wastewater lines, for example), or to reshape the land’s natural contours for more specific use (stock tanks, for example). Any publicly constructed improvement that does not fulfill a specific use—such as curbs, gutters, and sidewalks—constitutes an improvement to land.

Improvements—Buildings, other structures, and attachments or annexations to land that are intended to remain so attached or annexed, such as sidewalks, trees, drives, tunnels, drains, and sewers. Note: Sidewalks, curbing, sewers, and highways are sometimes referred to as “betterment,” but the term “improvements” is preferred.

Improvements other than Buildings—A fixed asset account that reflects the acquisition value of permanent improvements, other than buildings, that add value to land. Examples of such improvements are fences, retaining walls, sidewalks, pavements, gutters, and tunnels. This account contains the purchase or contract price; if improvements are obtained by gift, the account reflects the appraised value at time of acquisition.

In Personam—Against a person. Note: A property tax is said to be in personam when it is a charge against a person, collectable out of any of his or her property or income, rather than a lien against the property subject to the tax. Some taxes are both in rem and in personam.

In Rem—Against a thing. Note: A property tax is said to be in rem when it is a charge against the property on which levied and is secured by a lien thereon. The fact that a property tax is a lien on other property of the owner does not make it an in rem tax.

Inadequacy—The inability of a property to yield a reasonable return on the value of the land and the reproduction cost of the improvements (less accumulated physical depreciation) because of its lack of capacity.

Inadequate Rate of Return —A percentage of income to investment that does not allow a company both to service debt and to earn the required rate of return for shareholders and bondholders.

Income—The payments to its owner that a property is able to produce in a given time span, usually a year, and usually net of certain expenses of the property.

Income Approach—One of the three approaches to value, based on the concept that current value is the present worth of future benefits to be derived through income production by an asset over the remainder of its economic life. The income approach uses capitalization to convert the anticipated benefits of the ownership of property into an estimate of present value.

Income Capitalization—The process of dividing a property's net annual income by a capitalization rate in order to arrive at an estimated value.

Income Path—The series of payments from an investment expressed as a percentage of the first year's payment; the plot or trajectory of the income stream.

Income Stream—The series of payments (usually net income payments) receivable from an investment over the life of the investment. The series, of course, may be of any conceivable nature, including a constant series of equal payments (level), a series of decreasing payments that decrease by equal amounts each period (arithmetically decreasing), a series of increasing payments that grow larger each period at a constant rate (geometrically increasing), and so on.

Increment, Alley—See **alley influence**.

Increment, Unearned—An increase in value of property due primarily to the operation of social forces rather than to the efforts or initiative of the owner; usually, but not necessarily, applied to land.

Increment, Value—See **value increment**.

Incurable—A part of depreciation for which it is not economical to correct the condition, and if corrected, the cost of correcting the condition exceeds the value added.

Indemnification—Bonds established to provide security against future costs resulting from previously existing contamination; usually provided by the seller to facilitate a sale of contaminated property.

Independent Appraisal—An estimate of value using a model different from that used for assessment purposes. Independent appraisals are used to supplement sales in sales ratio studies or in appraisal ratio studies.

Independent Variable—A variable whose value is not determined by other (dependent) variables.

Indirect Capitalization—Any of several techniques used in the income approach to value. The indirect methods stand in contrast to direct sales analysis methods, whereby a typical relationship between incomes and sale prices is found by dividing observed

incomes by sale prices of comparable properties; the fraction thus obtained is then applied (in the form of a gross income multiplier or an overall rate) to the properties being appraised. The indirect methods, on the other hand, involve certain subtleties and assumptions that vary according to the particular method employed, but include estimating such factors as the required rate of return on investment, the remaining economic life of the property, an investment holding period, the income path, anticipated depreciation or appreciation, and reversionary value upon the end of economic life. See **building residual technique**; **discount rate**; **land residual technique**; **mortgage-equity analysis**; **property residual technique**; and **yield capitalization**.

Indirect Costs—(1) Overhead costs (see **cost, overhead**). (2) Costs incurred in construction away from the site. For example: fees, permits, insurance, and loans.

Indirect Equalization—The process of computing hypothetical values that represent the oversight agency's best estimate of taxable value, given the legally required level of assessment or market value. Indirect equalization allows proper distribution of intergovernmental transfer payments between state or provincial and local governments despite different levels of appraisal between jurisdictions or property classes. See **equalization** and **direct equalization**.

Industrial property—See **property use category**.

Inelastic—See **elasticity**.

Inferential Statistics—The branch of statistical studies concerned with making predictions about the values of a large number of observations of a variable on the basis of a small number of observations of that variable and related facts. (2) By extension, the statistics calculated in such predictions.

Inferior Goods—Goods the consumption of which decreases as consumer income increases.

Influence, Corner—See **corner influence**.

Influence, Depth—See **depth influence**.

Infrared Film—Photographic film sensitized to record near infrared wavelengths beyond the red end of the light spectrum; also sensitive to blue and ultraviolet light and must be used with a red filter to screen out these wavelengths.

Infrared Radiation (IR)—Pertaining to or designating that portion of the electromagnetic spectrum lying between the red end of the visible spectrum (about 0.7 micrometers) and an indefinite upper boundary sometimes arbitrarily set at 1,000 micrometers, the lower limit of the microwave region of the spectrum.

Infrared Scanner—An instrument for obtaining thermal infrared imagery through line-scanning techniques.

Infrared Thermal Sensing—Line-scanning techniques using infrared scanners with detectors. Usually, the imagery is obtained from selected portions of the 3 to 14 micron region of the spectrum.

Ingress—An entrance or means of entering.

In-lot—Any lot within an original or subdivision plat other than an outlot.

Innocent Landowner—A landowner who purchased property subsequent to contamination, but who had no knowledge of and did not contribute to, the contamination. The landowner must have made all “appropriate inquiries” into the property prior to purchase. Purchasers who qualify as innocent landowners are not liable under CERCLA.

Inputs—See **factors of production**.

Insolvent—Being incapable of meeting current debts.

Installment Contract—A purchase contract in which payment is made in prescribed installments that are usually forfeited if default occurs.

Instrument—A formal legal document such as a deed, contract, will, or lease.

Intangible Personal Property—See **property**.

Integrity—The quality of a data element or program being what it says it is; usually distinguished from validity, the quality of its being what it should be in terms of some ultimate purpose. After data are edited and encoded and programs are prepared, their integrity is ensured by safeguards that prevent accidental or unauthorized tampering with them. *Compare* **accuracy**; **precision**.

Interactive—Possessing the quality of being able to get reactions to proposals or instructions one at a time rather than merely all at once at the end of a session; usually said of a kind of computer system.

Intercept—Graphically, the point at which a line, such as a regression line, intersects the axis on which the dependent variable is represented; the value of the predicted variable when the value of all the other values in the model is zero; the constant b_0 .

Interest (Interest Rate)—The premium paid for the use of money; a (rate of) return on capital; the equilibrium price in money markets. The interest rate usually incorporates a risk factor, an illiquidity factor, a time-preference factor, an inflation factor, and potentially, other factors. See **discount rate**.

Interest (Interest Transferred, Interest Acquired)—The ownership rights of a person in a property. Complete ownership is called fee simple interest. It is possible to sell (transfer) and to own separately the component interests, such as mineral rights and air rights, that make up the fee interest. See **bundle of rights**.

Interest, Possessory—See **possessory interest**.

Interest, Undivided—See **undivided interest**.

Internal Controls—The elements of a system for monitoring performance and ensuring integrity that are employed more routinely than procedural edits and are often performed automatically.

Internal Rate of Return—(1) The annualized yield rate on capital that is (or could be) generated by an asset or within a group of capital assets over a period of ownership. (2) The rate that discounts all future cash flows to a net present worth equal to the original investment. The internal rate of return is calculated, usually by trial and error, from a knowledge of the relevant cash flows.

Interquartile Range (Interquartile Deviation [IQR])—The result obtained by subtracting the first quartile from the third quartile. By definition 50 percent of the observations fall within the IQR.

Intestate—The state of having died without leaving a valid last will and testament.

In-Transit Goods—Personal property that is in movement from one jurisdiction to another; the property is not assessable because of lack of situs.

Intrinsic value—(1) The inherent worth of a thing. (2) Value that remains when cost to cure a contamination problem exceeds original market value. See **value in use**.

Inventory—(1) The group of personal property items whose value is exhibited by value in exchange, that is, ownership is solely for the purpose of sale rather than use. (2) In general, any detailed list showing quantities and descriptions, and usually values or prices, of property. (3) Frequently used in the plural form to designate all types of current, physical assets that are customarily listed by quantities, descriptions, and values or prices for regular accounting purposes; for example, raw materials, goods in process, finished goods, office supplies, stores. (4) Occasionally (for example, in Vermont), a tax list.

Inventory, Perpetual—An inventory which is kept up to date by recording and valuing additions to stock and withdrawals therefrom as they occur. Synonymous with “running inventory.”

Inventory, Physical—An inventory that is made up periodically on the basis of an actual count and valuation of all items then on hand.

Investment Analysis—A study that evaluates the relationship between acquisition price and anticipated future benefits of a real estate investment.

Investment Holding Period—The length of time that typical investors generally hold an investment of a specified type.

Investment Trust—A type of investment company that sells its stock and invests the money received in stocks and bonds of other companies, real estate, or other investments. Investment trusts can be open-end or closed-end. See **REIT**.

Investment Value—The worth of an investment property to a particular investor. Investment value may or may not coincide with market value depending on the requirements of the specific investor.

Investment Yield—The rate of return on capital that is generated from an investment over a period of ownership, including both income and resale.

Inwood Coefficient—A factor used to obtain the present worth of a level stream of income; also known as the present worth of 1 per period factor.

Iowa Type Curve—A classification of survivor curves by their basic mathematical shape into three families of, respectively, 6, 7, and 5 curves; hence the alternate designation of “Iowa 18 type curves.” Type survivor curves are used to smooth original survivor curves, to help determine the probable life of single units, and as a means of checking the adequacy of the depreciation reserve balance or of estimating an adjustment factor in the appraisal procedure.

Irrevocable—That which cannot be recalled or revoked.

IRV—A mnemonic for the basic equation of the income approach: $\text{Income} = (\text{Capitalization}) \text{Rate} \times \text{Value}$.

Iteration—One repetition or repeated cycle in a process of estimating values as close as possible to actual values by repeated approximations. The results of each approximation are used in the next one.

J

Joint estate—See **tenancy, joint**.

Joint tenancy— See **tenancy, joint**.

Jurisdiction—(1) The right and power to interpret and apply the law; also, the power to tax and the power to govern. (2) The territorial range of authority or control.

K

Kilometer—Unit of length equal to 1,000 meters. Equals 0.6214 statute miles.

Kruskal-Wallis Test—A test in inferential statistics, valid for all types of numerical data, that seeks to determine whether the observations in a sample came from one population as opposed to three or more distinct, homogeneous subpopulations. This test is used in assessment to analyze assessment ratios from three or more classes of property to determine whether significant assessment biases are present among the classes of property. When only two classes are being compared, the appropriate test is the Mann-Whitney test.

L

Land—(1) In economics, the surface of the earth and all the natural resources and natural productive powers over which possession of the earth's surface gives man control. (2) In law, a portion of the earth's surface, together with the earth below it, the space above it, and all things annexed thereto by nature or by man. See **improvement**.

Land, Improved—Land that has been made more valuable by the application of labor or labor

and capital to it or public property adjacent to it.

Land, Parcel of—See **parcel**.

Land, Patented—Land formerly owned by a state or national government as part of the original public domain that has been voluntarily conveyed by such government to a private owner by a proceeding authorized by general statute, the conveyance being evidenced by an instrument known as a "land patent."

Land, Platted—Land that has been surveyed and divided into marketable lots delineated on a plat; applied especially to urban land used or intended for use as building sites.

Land Contract—An executory contract for the purchase of real property under the terms of which legal title to the property is retained by the vendor until such time as all conditions stated in the contract have been fulfilled; commonly used for installment purchase of real property. See **contract for deed**.

Land Cover—The biophysical materials covering the surface of the land, including soil, water, vegetation, and human cultural activities.

Land Description Systems—Organized uniform written descriptions of the physical boundaries of property rights; commonly referred to as legal descriptions.

Land Grant—A legal document in which the federal government conveys land title to an individual.

Land Ratio—The ratio of land area to building area. The land ratio can be an important factor in grouping properties for income approach appraisal by means of direct sales comparisons.

Land Ratio Method—A technique used to estimate the value of property from a knowledge of normal net income, the discount rate, the remaining economic life of a property, the value of the building, the income path attributable to the building, and the income path attributable to the land. The technique estimates total value by discounting the income stream attributable to the land and adding the result to an independent estimate of the value of the building. See **allocation method**.

Land Residual Technique—See **abstraction method**.

Landlord—Synonymous with lessor.

Landsat—A series of unmanned earth-orbiting NASA satellites that transmit multispectral images in the 0.45- to 12.5-micrometer region of the spectrum to earth receiving stations. Formerly ERTS.

Land-to-Building Ratio (Land-to-Improvement Ratio)—The proportion of land area to gross building (improvement) area. For a given use, the most frequently occurring ratio will be that of a functioning economic unit.

Last In First Out (LIFO)—An inventory cost accounting procedure whereby unsold inventory, including inventory carried over from the prior year, is valued at the prices paid for the earliest inventory purchases.

Latitude—The angular distance north or south of the equator, measured in degrees along a meridian, as on a map or globe.

Law of Variable Proportions—Often called law of decreasing returns or the law of proportionality. States that when the quantity of one productive service is increased by equal increments, the quantities of other productive services remaining fixed, the resulting increment of product will decrease after a certain point.

Lease—A written contract by which the lessor (owner) transfers the rights to occupy and use real or personal property to another (lessee) for a specified time in return for a specified payment (rent).

Lease, Cash—See **cash lease**.

Lease, Graduated Rental—A long-term lease with increases or decreases (specified in a step-up or step-down clause) in the rent that are to take effect at established intervals at set amounts or at amounts to be reached by subsequent appraisal and arbitration.

Lease, Gross—A lease under the terms of which the lessor (landlord) receives stipulated rent and pays the expenses of operating and maintaining the leased property. *Contrast* **lease, net**.

Lease, Ground—A lease conveying an interest in land exclusive of any improvements constructed thereon.

Lease, Net—A lease under the terms of which the lessee pays the agreed rental and also all expenses of operating and maintaining the leased property, including taxes on it, but not including depreciation. *Contrast* **lease, gross**.

Lease, Percentage—A lease in which the consideration is measured by, or dependent on, the operating earnings or sales of the business using the leased property.

Lease, Proprietary—A type of lease used by tenant-shareholders in a cooperative apartment; the tenant purchases a specific number of shares of stock to occupy a unit, then makes monthly payments for operations and debt service.

Lease, Sandwich—A lease that lies between the fee title and a subsequent lease. For example, A leases to B and B to C; the first of these leases is a sandwich lease. The lessee in a sandwich lease is not the person using the property. The lessor may or may not be the owner of the fee; if it is a sublease, he or she is not.

Lease, Step-Up—A lease that calls for set increases in rent at specified intervals.

Lease, Straight—A lease that calls for a set amount of rent to be paid periodically over the term of the lease.

Leased Fee Estate—An ownership interest held by a lessor with the rights of use and occupancy conveyed by lease to another.

Leasehold Estate—Interests in real property under the terms of a lease or contract for a specified period of time, in return for rent or other compensation; the interests in a property that are associated with the lessee (the tenant) as opposed to the lessor (the property owner). May have value when market rent exceeds contract rent.

Leasehold Improvements—Items of personal property such as furniture and fixtures associated with a lessee (the tenant) that have been affixed to the real property owned by a lessor.

Least Cost Combination of Resources—A combination of resources at which the marginal physical product per dollar's worth of one resource is equal to the marginal physical product per dollar of every other resource.

Legal Description—A delineation of dimensions, boundaries, and relevant attributes of a real property parcel that serve to identify the parcel for all purposes of law. The description may be in words or codes, such as metes and bounds or coordinates (see **coordinate system**). For a subdivided lot, the legal description would probably include lot and block numbers and subdivision name.

Lessee—The person receiving a possessory interest in property by lease, that is, the owner of a leasehold estate.

Lessor—The person granting a possessory interest in property by lease, that is, the conveyer of a leasehold estate, the holder of a leased fee estate.

Level of Appraisal—The common, or overall, ratio of appraised values to market values. Three concepts are usually of interest: the level required by law, the true or actual level, and the computed level, based on a ratio study.

Level of Assessment; Assessment Ratio—The common or overall ratio of assessed values to market values. *Compare level of appraisal.* Note: The two terms are sometimes distinguished, but there is no convention determining their meanings when they are. Three concepts are commonly of interest: what the assessment ratio is legally required to be, what the assessment ratio actually is, and what the assessment ratio seems to be, on the basis of a sample and

the application of inferential statistics. When level of assessment is distinguished from assessment ratio, “level of assessment” usually means either the legal requirement or the true ratio, and “assessment ratio” usually means the true ratio or the sample statistic.

Level of Trade—See **trade, level of**.

Leverage—The effect of borrowed funds on investment return.

Levy—See **property tax levy**.

Liability—(1) Any debt or legal obligation. (2) Used broadly to include the obligations, legal or equitable, of a business entity to its owners as well as its creditors.

Lien—(1) The legal right to take or hold property of a debtor as payment or security for a debt. (2) Any legal hold or claim, whether created voluntarily or by operation of law, which a creditor has on all or specified portions of the property owned by a person indebted to him. *Compare mortgage*.

Lien Date—The date on which an obligation, such as a property tax bill (usually in an amount yet to be determined), attaches to a property and the property thus becomes security against its payment. The term is usually synonymous with appraisal date but is not necessarily so.

Life, Economic—See **economic life**.

Life, Physical—The period over which a physical property is capable of functioning without being scrapped or reconstructed.

Life, Structural—See **life, physical**.

Life Estate—An interest in property that lasts only for a specified person’s lifetime; thus the owner of a life estate is unable to leave the property to heirs.

Life Tenant—The recipient of a life estate.

Light Detection and Ranging (LiDAR)—An airborne collection system that uses a scanning infrared laser sensor comprising a transmitter and receiver, Global Positioning System (GPS) receiver and an Inertial Navigation System (INS) unit to obtain the geospa-

tial x, y, and z coordinate value of ground surface points. This data can be used to develop very accurate digital elevation, surface and terrain models. These models can form the base for orthoimagery and geospatial analysis.

Limits on Assessment Increases—A form of tax and expenditure limitation, applicable to all local governments in the state, in which an upper limit is placed on the dollar value of assessments, on the dollar amount of assessment increases, or on the rate of the assessment increase. See **assessment, acquisition-based**.

Limits on General Revenue or Expenditure Increases—A form of tax and expenditure limitation, applicable to all local governments in the state, in which an upper limit is placed on the dollar value of increases in revenues gathered or on expenditures made, or on the rate of increase in revenues gathered or expenditures made.

Lindsay-Bernard Rule—See **Bernard rule**.

Line, Base—See **base line**.

Line, Coincidence—Synonymous with preferred term merge line.

Line, Lot—A line bounding a lot.

Line, Lot—A line bounding a lot.

Line, Merge—See **merge line**.

Line, Property—A line bounding a parcel of land. *Compare line, lot*. Note: A property line may or may not coincide with a lot line, depending on whether or not the parcel and the lot are coterminus.

Line, Range—See **range line**.

Line, Township—See **township line**.

Linear Regression—A kind of statistical analysis used to investigate whether a dependent variable and a set of one or more independent variables share a linear correlation and, if they do, to predict the value of the dependent variable on the basis of the values of the other variables. Regression analysis of one dependent variable and only one independent variable is called simple linear regression, but it is the word simple (not linear) that distinguishes it from multiple regression analysis with its multiple independent variables.

Link—(1) A land measure of 7.92 inches. (2) Successive ownership of a particular property in the chain of title.

Liquid Assets—Assets that can quickly be converted into cash.

Liquidation Value—The estimated gross dollar amount that could be typically realized at properly conducted public auction held under forced conditions and under present-day economic trends.

Liquidation Value-in-Place—The estimated proceeds of a forced sale of an entire facility or property.

Liquidity—The ease with which an asset may be converted into cash.

List, Grand—(1) The combined contents of all individual tax lists within a given tax or assessment district after the completion of the original assessment and administrative review. (2) Occasionally, a list of the record owners of real estate. *Compare* **assessment roll**.

List, Tax—(1) A list made up by or for each taxpayer during the assessment process, containing an itemized inventory of taxable property with one or more columns for the insertion of valuation figures (preferred). (2) Occasionally used synonymously with assessment roll. *Compare* **declaration; inventory; and rendition**.

Lister—A term used in Vermont synonymously with assessor.

Listing—The process by which the assessor ensures that records for the taxable property identified during discovery are preserved with integrity, available for use in valuation activities, and ultimately reflected in the assessment roll.

Loan constant—See **mortgage constant**.

Loan-to-Value Ratio (M)—The relationship (usually as a percentage) between the amount of a mortgage and the value of the security pledged as security for the mortgage.

Loan Term—The length of time over which a loan must be repaid.

Locally Assessed Property—Property for which the assessed value is set by the assessing official of the local jurisdiction within which the property is located.

Local Multiplier—An adjustment to replacement or reproduction cost new or historic cost, to reflect local costs.

Location—The numerical or other identification of a point (or object) sufficiently precise so the point can be situated. For example, the location of a point on a plane can be specified by a pair of numbers (plane coordinates) and the location of a point in space can be specified by a set of three numbers (space coordinates). However, location may also be specified in other terms than coordinates. A location may be specified as being at the intersection of two specific lines by identifying it with some prominent and known feature (for example, “on top of Pikes Peak” or “at the junction of the Potomac and Anacostia Rivers”).

Location Value Response Surface Analysis—A mass appraisal technique that involves creating value influence centers, computing variables to represent distances (or transformations thereof) from such points and using the variables in a multiple regression or other model to capture location influences. Implementation of the technique is enhanced by the use of a geographic information system. Some geographic information systems permit the value influence centers to be displayed and measured as a three-dimensional grid surface, the results of which can be likewise used in calibration techniques to arrive at the contribution of location based on the model specification.

Location Variable—A variable, such as the distance to the nearest commercial district or the traffic count on an adjoining street, that seeks to measure the contribution of locational factors to the total property value.

Locational Obsolescence—A component of economic obsolescence; loss in value due to suboptimal siting of an improvement.

Log-Linear Relationship—A correlation between two variables such that if the value of one variable changes by a certain percentage, the value of the other changes by a certain amount. (Recall that logarithms permit multiplication to be done by means of adding logs.) For example, there is a log-linear relationship between x and y in the following sequence:

x	5	6	7	8
y	20	30	45	67.5

Logarithm; Log—The number that, when used as an exponent for another number (called the base), results in a third number of some practical interest (called the antilogarithm). There are two bases that are used with any frequency; the base 10 produces what are called common logarithms, and the base 2.71828 (*e*) produces what are called natural logarithms. For example, $\log_{10} 100 = 2$; $10^2 = 100$. Logarithms were originally used to simplify complex calculations involving multiplications inasmuch as two numbers can be multiplied by adding their logarithms and taking the antilog of the result.

Long-Lived Items—Items that are the basic structure of a building and are not usually replaced during economic life. For example: foundation, roof structure, and framing.

Long-Term Debt—The unpaid balance of notes, bonds and other evidences of debt payable after one year from the date issued plus any unamortized debt discount and debt expense and any reacquired long-term debt.

Long and Short Rule—Any rule for computing depth factors.

Long Run—A planning period long enough for a firm to be able to vary quantities of all resources it uses.

Longitude—A linear or angular distance measured east or west from a reference meridian (usually Greenwich) on a sphere or spheroid.

Loran-C—A radio navigation system. The term Loran was originally an acronym for Lo(ng)Ra(nge) N(avigation).

Lot—Any one of the marketable parcels into which a tract of land is divided upon platting; applied especially to urban land. Note: A lot may or may not be coterminous with a parcel of land.

Lot, Corner—A lot located in the angle formed by two intersecting streets.

Lot, Government—One of the nonrectangular areas into which sections not evenly or approximately divisible into square forty-acre tracts were divided in the course of the government survey.

Lot, In—See **in-lot**.

Lot, Inside—A lot sufficiently far from the intersection of any streets to be assumed to be free of corner influence.

Lot, Irregular—A lot which is not rectangular in shape.

Lot, Merged—Used synonymously with the preferred term “through lot.”

Lot, Off-Grade—A lot that must be cut or filled to bring it to normal grade.

Lot, Out—See **outlot**.

Lot, Restricted—A lot whose owner is restricted as to its use or sale by the terms of a private contract or by operation of law; for example, a lot upon which construction is restricted to residential buildings of an approved style and of a minimum cost. Note: Restrictions are ordinarily created by zoning laws and ordinances or by private contract on the deeding of property.

Lot, Standard—A lot that is selected as the standard in size, shape, grade, and alley influence, usually because it is representative of the majority of lots within a given area.

Lot, Through—A lot fronting on two streets which are parallel or which run in the same general direction. Synonymous with merged lot. Note: The term “through parcel” is more appropriate if the parcel was formed by assemblage of two lots with a common rear line.

Lot and Block Survey—A plat in which a larger parcel of land is subdivided into small units for the purpose of sale. Conveyances need to refer only to the lot, block, and plat book designation.

Lot and Block Survey System—A system used to describe small parcels of land, primarily urban, using in most cases a section or plat number or name, and a lot number.

Lower of Cost or Market—An inventory accounting concept which states that the present value of inventory is based on the lower of either historical cost or current selling price.

M

Macroeconomics—The economics of the economy as a whole—the forces causing recession, depression, and inflation together with the forces resulting in economic growth.

Macroidentification—A method of studying an entire manufacturing process by identifying the major components contributing to the design capacity of a plant.

Maintenance—An expenditure on a fixed asset that increases or tends to preserve the asset's value but that, under accepted accounting procedure, is not reflected in an increase in its book value. *Contrast* **betterment**.

Management Rate—A rate that reflects the costs of managing the property. This management rate is added to the risk rate, the safe rate, and the nonliquidity rate to yield the return rate in the summation method.

Mann-Whitney Test—A test in inferential statistics, similar to the Kruskal-Wallis test, that seeks to determine whether the differences in values between two sets of observations from any population are statistically significant.

Map—A conventional representation, usually on a plane surface and at an established scale, of the physical features (natural, artificial, or both) of a part or the whole of the earth's surface. Features are identified by means of signs and symbols, and geographical orientation is indicated.

Map, Aerial—A map constructed on the basis of aerial photographs.

Map, Base—A map with points of reference and other physical features to facilitate data plotting.

Map, Highway—A (usually) planimetric map whose features are roads and streets, access ways, railroads, airports, and other transportation activities and their support services.

Map, Land Value—A map that shows all streets, watercourses, railroads, and other principal features, and the unit-foot values, square-foot values, or acre values assigned to all land in the area covered. Synonymous with equalization map; base value map.

Map, Lot, and Block—A map of an urban area showing the division of land into lots and blocks, with dimensions.

Map, Planimetric—A map that shows only the horizontal positions of the features represented. *See* **map, topographic**.

Map, Tax—A map drawn to scale and delineated for lot lines or property lines or both, with dimensions or areas and identifying numbers, letters, or names for all delineated lots or parcels.

Map, Topographic—A map showing the horizontal and vertical locations of natural and artificial features. It is distinguished from a planimetric map by the presence of quantitative symbols showing the relief.

Map, Unit-Foot Value—See **map, land value**.

Map Book and Page System—A system for parcel identification in which a code (usually numeric) is used to identify each parcel, each code containing four elements: the volume or book of maps in which the parcel is to be found, the page on which it is to be found, the block, and the individual parcel on the block.

Margin of Error—A measure of the uncertainty associated with statistical estimates of a parameter. It is typically linked to consumer surveys or political poll questions. A margin of error is a key component of a confidence interval. It reports a “plus or minus” percentage or proportion quantity in a confidence interval at a specified level of probability (typically 95 percent). See **confidence interval**.

Marginal Cost—The change in a firm’s total costs per unit change in its output level.

Marginal Physical Product—The change in total output of a firm resulting from a one-unit change in the employment of a resource, holding the quantities of other resources constant.

Marginal Revenue—The change in a firm’s total revenue per unit change in its sales level; marginal revenue equals price in pure competition only.

Marginal Unit—The unit last added to any economic process.

Marginal Utility—The change in the total utility to a consumer that results from a one-unit change in the consumption level of an item.

Marginal Utility Theory—A theory of consumer choice that says that consumers will maximize welfare by allocation of their budget such that the marginal utility per dollar is equalized across all purchased goods.

Market—(1) The topical area of common interest in which buyers and sellers interact. (2) The collective body of buyers and sellers for a particular product.

Market Adjustment Factors—Market adjustment factors, reflecting supply and demand preferences, are often required to adjust values obtained from the cost approach to the market. These adjustments should be applied by type of property and area and are based on sales ratio studies or other market analyses. Accurate cost schedules, condition ratings, and depreciation schedules will minimize the need for market adjustment factors.

Market Analysis—A study of real estate market conditions for a specific type of property.

Market Analyst—An appraiser who studies real estate market conditions and develops mathematical formulas that represent those market conditions.

Market Approach—A valuation term with several meanings. In its broadest use, it might denote any valuation procedure intended to produce an estimate of market value, or any valuation procedure that incorporates market-derived data, such as the stock and debt technique, gross rent multiplier method, and allocation by ratio. In its narrowest use, it might denote the sales comparison approach..

Market Area—See **economic area**.

Market Price—The price a particular buyer and seller agree to in a particular transaction; the amount actually paid. *Compare market value*.

Market Rate of Return—The typical return on an investment in a given type of property in a given market. It is distinct from the actual rate of return indicated by a property's actual income.

Market Rent—The rent currently prevailing in the market for properties comparable to the subject property. Market rent is capitalized into an estimate of value in the income approach.

Market System—A type of economic system in which the questions of what to produce, for whom, and how are decided by the workings of an open and competitive market.

Market Value—Market value is the major focus of most real property appraisal assignments. Both economic and legal definitions of market value have been developed and refined. A current economic definition agreed upon by agencies that regulate federal financial institutions in the United States is: The most probable price (in terms of money) which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby: The buyer and seller are typically motivated.

Both parties are well informed or well advised, and acting in what they consider their best interests.

A reasonable time is allowed for exposure in the open market.

Payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto.

The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

Marketability—The salability of a property at a specific time, price, and terms.

Market-Related Adjustment—Accounts for changes in market conditions between the time a comparable sold and the effective date of the appraisal. See **market adjustment factors**.

Market-to-Book Multiple—See **equity market multiple**.

Market-Value Standard—A requirement of law or practice that the assessment ratio of all properties be equal to 1. Two issues are implicit here: that fractional assessment levels be avoided and that all property be assessed on the basis of its market value and not on the basis of its value in some particular use—for example, agriculture—unless that use is the only use to which the property can legally be put (in which case its use value would be equal to its market value).

Mark-up—A mark-up is an amount added to a cost in calculating a selling price to account for overhead and profit.

Mass Appraisal—The process of valuing a group of properties as of a given date, using standard methods, employing common data, and allowing for statistical testing.

Mass Appraisal Model—A mathematical expression of how supply and demand factors interact in a market.

Mean—A measure of central tendency. The result of adding all the values of a variable and dividing by the number of values. For example, the mean of 3, 5, and 10 is 18 divided by 3, or 6. Also called arithmetic mean.

Measure of Tax—The unit that makes up the tax base. Note: The measure of a tax is distinguished in law from the subject of tax. For example, the measure of a gasoline tax is a gallon, whereas the subject of the tax may be the privilege of selling gasoline; the measure of a property is \$1, \$100, or \$1,000 worth of property, and the subject may be either the property or the person owning it. *Compare* **object of tax**; **subject of tax**.

Median—A measure of central tendency. The value of the middle item in an uneven number of items arranged or arrayed according to size; the arithmetic average of the two central items in an even number of items similarly arranged; a positional average that is not affected by the size of extreme values.

Median Absolute Deviation—The median of the absolute deviations from the median. In a symmetrical distribution, the measure approximates one-half the interquartile range.

Median Percent Deviation—The median of the absolute percent deviations from the median; calculated by dividing the median absolute deviation by one-hundredth of the median.

Mercator Projection—Refers to one of several mathematical projections of the curved surface of the earth on an imaginary cylinder, which is then flattened. The original Mercator projection was on a cylinder the axis of which was in a north-south direction. Transverse Mercator projections are on imaginary cylinders with an east-west orientation. Transverse Mercator projections are more common than the original Mercator projection. In addition to the universal transverse Mercator (UTM) projection, there are the modified transverse Mercator system (MTMS), and the state transverse Mercator (STM) system.

Merge Line—An imaginary line dividing a through lot or parcel into two parts, along which, corner and alley influence being ignored, the value of the land is at its minimum and is the same whether the depth be calculated from one street or the other. Note: It is customary to locate the merge line of a rectangular through lot at a point at which the ratio of its distances from the two streets is equal to the ratio of the respective unit-foot values of the two streets. This formula, however, does not produce results consistent with the above definition when used in conjunction with any of the standard depth tables.

Merge Point—Any point on the merge line.

Merger—Union of two or more entities; absorption of a lesser entity by a greater one.

Meridian—(1) An imaginary line on the earth's surface running due north and south from which differences of longitude (or departures) and azimuths are reckoned. (2) A principal north-south line in the rectangular land survey system.

Meridian, Grid—A line of a map grid parallel to the line representing the central meridian.

Meridian, Principal—A true meridian from which range lines are established by the government survey. *Contrast* **base line**.

Metes and Bounds—Measurement of angles and distances; a description of a parcel of land accomplished by beginning at a known reference point, proceeding to a point on the perimeter of the property being described, and then tracing the boundaries until one returns to the first point on the perimeter, usually a corner. The angles are described by reference to points of the compass, and the distances are described in feet or chains; curves are treated as arcs on a circle.

Microeconomics—The economics of units, such as firms and neighborhoods, of an economic system (as opposed to macroeconomics, which studies the economy as a whole).

Microidentification—The process of finding the individual characteristics of equipment.

Microwave Region—Commonly, that region of the electromagnetic spectrum in the wavelength range from 1 micrometer to beyond 1 meter.

Mill—One mill is one-thousandth of one dollar or one-tenth of one cent.

Millage; Mill Rate—A tax rate expressed as mills per dollar. For example, a 2 percent tax rate is \$2 per \$100, \$20 per \$1,000, or 20 mills per dollar.

Mineral Rights—The right to extract ore, petroleum, or other minerals from a property.

Ministerial Duty—A duty prescribed by law that can be discharged without the exercise of official discretion or judgment.

Minkowski Metric—Any of a family of possible ways of measuring distance. Euclidean distance, a member of this family, computes straight-line distances by squaring differences in like coordinates, summing them, and taking the square root of the sum. In mass appraisal model building, Minkowski metric usually refers to the sum of absolute differences (not squared) in each dimension, and resembles a “taxicab” or city block pattern. Other alternatives are possible, including the distance as calculated only for the dimension of greatest difference, but the city block distance is most common.

Mode—A measure of central tendency. (1) In an array of the values of a variable, the most frequently occurring value. (2) By extension for grouped data, the class with the greatest number of observations.

Model—(1) A representation of how something works. (2) For purposes of appraisal, a representation (in words or an equation) that explains the relationship between value or estimated sale price and variables representing factors of supply and demand.

Model Calibration—The development of adjustments, or coefficients based on market analysis, that identifies specific factors with an actual effect on market value.

Model Specification—The formal development of a model in a statement or equation, based on data analysis and appraisal theory.

Money Market—The interaction of buyers and sellers of short-term credit instruments.

Monument—A term used in land surveying and geodesy to mean a permanent object placed in the ground marking a point, the location of which is known, on the surface of the earth. See **geodetic control network**.

Moratorium—A period of suspension of legal remedies or rights that is commonly used by local government agencies.

Mortgage—A contract under the terms of which the legal, but not the equitable, title to a specific property of one person (the mortgagor) is conditionally conveyed to a second person (the mortgagee) as security for the payment of a debt or performance of some other act. Note: In some states, legal title to mortgaged property passes to the mortgagee on execution of the mortgage; in others, legal title passes when the debt secured by the mortgage is in default; in still others, the mortgage is simply a lien, and legal title does not pass until foreclosure proceedings have been completed.

Mortgage, Balloon—See **balloon mortgage**.

Mortgage, Blanket—See **blanket mortgage**.

Mortgage, Chattel—A mortgage in which the security consists of tangible personal property. Note: A chattel mortgage usually takes the form of a bill of sale drawn in favor of the mortgagee with a clause defeating the transfer during compliance by the mortgagor with specified conditions.

Mortgage, Direct Reduction—A debt secured by real estate that is repaid in periodic, usually equal, installments that include repayment of part of the principal and the interest due on the unpaid balance, such as a level-payment, fixed-rate, fully amortizing mortgage.

Mortgage, Equitable—A written agreement which is a lien against real property and is considered a mortgage but does not follow usual mortgage wording.

Mortgage, First—The mortgage that has the highest priority for repayment over all other liens on a property.

Mortgage, Insured—A mortgage insured by a party other than the borrower that satisfies the balance in the event of default by the mortgagor.

Mortgage, Junior—A lien on a property that is subordinate to any other prior mortgage claims.

Mortgage, Open-End—A mortgage that permits the mortgagor to borrow additional money, with certain conditions, under the same mortgage.

Mortgage, Package—A mortgage that covers both personal and real property.

Mortgage, Purchase Money—A mortgage given to the seller from the buyer as part of a purchase consideration.

Mortgage, Real—A mortgage in which the security consists of real property.

Mortgage, Second—A mortgage that ranks after a first mortgage in precedence. Legal priority determines whether they are specified as a first, second, third, or so on, mortgage.

Mortgage, Wrap-Around—A junior or second mortgage that has a face value of both the amount it secures and the balance due under a first mortgage.

Mortgage Coefficient—A component of the basic rate in the Ellwood variant of mortgage-equity analysis.

Mortgage Constant (R_M)—Annual debt service expressed as a percentage of the initial principal amount of the loan; also called the “mortgage capitalization rate.”

Mortgage-Equity Analysis—A technique used to estimate the value of a property from a knowledge of the equity yield rate, typical mortgage terms (including the interest rate, the loan-to-value ratio, the term of the loan, and the amortization provisions), the holding period, and the percentage by which the property will appreciate or depreciate over the holding period. The solution is reached by using the Ellwood formula.

Mortgaged Fee Interest—The borrower’s ownership interest in a mortgaged property.

Mortgagee—The person who lends money in a mortgage transaction

Mortgagor—The person who borrows money in a mortgage transaction.

Movables (or Movable)—(1) In civil law states (Louisiana), a term used instead of, and more or less synonymously with, the term “personal property.” (2) All things that are subject to ownership other than land and improvements.

Moving Average—A statistic used to smooth the values of a variable when those values are erratic over distance or time, as in the case of land values and mortgage commitments. For example, a five-block simple moving average of land values along a major street would assign to block 16 the average of the values for blocks 14–18; it would assign to block 17 the average of the values for blocks 15–19, and so on.

Multicollinearity—The phenomenon of two or more variables being correlated. If the two correlated variables are both independent variables (note that if they are correlated they are not truly independent in the relationship sense) used to predict the value of some other, dependent, variable, then modeling problems will arise. If the multicollinearity is perfect, the multiple regression algorithms simply will not work; if the multicollinearity is serious but imperfect, the coefficients generated by the algorithm will be individually meaningless (although the model as a whole may still be useful).

Multiple Listing Service (MLS)—A computerized database subscription service used by real estate brokers and agents to share information about properties for sale. Hundreds of systems are located throughout the U.S. and Canada to serve local market areas.

Multiple Regression, Multiple Regression Analysis (MRA)—A particular statistical technique, similar to correlation, used to analyze data in order to predict the value of one variable (the dependent variable), such as market value, from the known values of other variables (called “independent variables”), such as lot size, number of rooms, and so on. If only one independent variable is used, the procedure is called simple regression analysis and differs from correlation analysis only in that correlation measures the strength of relationship, whereas regression predicts the value of one variable from the value of the other. When two or more variables are used, the procedure is called multiple regression analysis. See **linear regression**.

Multiplicative Model—A mathematical model in which the coefficients of independent variables serve as powers (exponents) to which the independent variables are raised or in which independent variables themselves serve as exponents; the results are then multiplied to estimate the value of the dependent variable.

Multiplicative Transformation—A transformation of a set of variables accomplished by multiplying a variable by one or more other variables. For example, room area is a multiplicative transformation of length and width.

Multispectral—Refers to remote sensing in two or more spectral bands, such as visible and near-infrared regions of the spectrum.

Multispectral Scanner—A nonphotographic imaging system that uses a rotating mirror and a fiber-optic bundle sensor. The mirror sweeps from side to side and sequentially records brightness values (that is, signal strengths) on magnetic tape for successive pixels, one swath at a time. The forward motion of the sensor platform carries the instrument to a position along the orbital path where an adjacent swath can be imaged.

Multivariate Statistical Technique—Any of a number of statistical analyses in which data (such as the information on a single property record card) containing a number of variables (such as lot size, number of rooms, and construction type) are analyzed to predict the value of some other variable. See **multiple regression analysis**.

Municipal Notes—Short-term promises to pay issued by local governments.

MVS—Marshall Valuation Service, published by Marshall & Swift.

N

NAPL—Non-aqueous phase liquids. Liquid contaminants often trapped in soil or bedrock.

National Map Accuracy Standards (NMAS)—For horizontal accuracy maps at publication scales larger than 1:20,000, 90 percent of all well-defined features, with the exception of those unavoidably displaced by exaggerated symbolization, will be located within 1/30 inch (85 mm) of their geographic positions as referred to the map projection; for maps at publication scales of 1:20,000 or

smaller, 1/50 inch (50 mm). For vertical accuracy, 90 percent of all contours and elevations interpolated from contours will be accurate within one-half of the basic contour interval. Discrepancies in the accuracy of contours and elevations beyond this tolerance may be decreased by assuming a horizontal displacement within 1/50 inch.

Natural Logarithm—See **logarithm**.

Navigation System, Doppler—In general, any navigation system that makes use of the measured shift in frequency to determine the velocity of the receiving system relative to the signal source and, from these measurements, the location of the receiver.

Navigation System, Inertial—Any navigation system in which gyroscopes or accelerometers are used to provide a coordinate system that has a fixed orientation with respect to the distant galaxies.

Navigation System, Satellite—(1) Navigation system used for the navigation of satellites. (2) A navigation system having beacons or transponders placed on satellites rather than at fixed points on land.

Neat Line—On a map of the earth's surface, a line that marks the limits of a specific area in precise measurements; commonly encloses the map, legend, scale, title, and other information; serves as the (imaginary) link to an adjacent map.

Neighborhood—(1) The environment of a subject property that has a direct and immediate effect on value. (2) A geographic area (in which there are typically fewer than several thousand properties) defined for some useful purpose, such as to ensure for later multiple regression modeling that the properties are homogeneous and share important locational characteristics.

Neighborhood Analysis—A study of the relevant forces that influence property values within the boundaries of a homogenous area.

Neighborhood Binary Variable—A binary variable used in a valuation model to separate the effects on value of distinct neighborhoods.

Net Assessed Value—The official dollar value remaining on an assessment roll after deducting the amount of any applicable partial exemptions from the gross assessed value.

Net Book Value—The value at which an asset is carried on the balance sheet. An asset's book value at any time is its cost less accounting depreciation.

Net Income—(1) The income expected from a property, after deduction of allowable expenses. (2) Net annual income is the amount generated by a property after subtracting vacancy and collection loss, adding secondary income, and subtracting all expenses required to maintain the property for its intended use. The expenses include management fees, reserves for replacement, maintenance, property taxes, and insurance, but do not include debt service, reserves for building additions, or income tax.

Net Income Multiplier—A factor expressing the relationship between value and net operating income; the reciprocal of the overall rate.

Net Income Ratio—The ratio of net income to total gross income. This ratio can be expressed as a percentage of potential gross income or of effective gross income. Traditionally, the net income ratio is expressed as a percentage of effective gross income, and is used as a comparison unit for income-producing properties.

Net Lease—A lease in which the landlord (lessor) receives a stipulated rent amount and the tenant (lessee) pays all operating expenses and taxes attributable to the property. A net lease produces net income to the lessor.

Net Leasable Area—The area within a building or structure that is actually occupied by an individual tenant. Net leasable area does not include any of the common areas, such as lobbies and restrooms, shared by other tenants.

Net Operating Income (NOI)—Annual net income after operating expenses are subtracted from effective gross income. Does not include payments for interest or principal.

Net Profit—Excess of revenue over operating expenses.

Net Worth—The aggregate of the equities representing proprietary interest; the excess of the going-concern value of assets over liabilities to outsiders; in the case of a corporation, the total of paid-in capital and retained earnings; in a sole proprietorship, the owner's capital account; in a partnership, the sum of the partners' capital accounts.

Neural Network (ANN)—A collection of mathematical models that emulate some of the observed properties of biological nervous systems and draw on the analogies of adaptive biological learning. An artificial neural network has several key elements: input, processing (calibration), and output. Other names associated with neural networks include: connectionism, parallel distributed processing, neuro-computing, natural intelligent systems, and machine learning algorithms.

NOI—See **net operating income**.

Nominal—Pertaining to the named or stated value of something.

Nominal Tax Rate—The stated tax rate, which does not necessarily correspond to the effective tax rate.

Noncapitalized Leased Property—See **operating leased property**.

Nonconforming Use—(1) A use of property that does not comply with the applicable zoning ordinance. (2) Uses that differ noticeably from prevailing uses in a neighborhood are sometimes also referred to as “nonconforming.”

Nonliquidity Rate—In building a rate of return by the summation approach, an appraiser must add in a factor or rate for nonliquidity. This rate compensates the investor for his or her inability to make immediate use of the investment amount. Generally, the longer the holding period for the investment, the higher the nonliquidity rate will be.

Nonoperating property—See **property, nonoperating**.

Nonparametric Statistic—A statistic whose interpretation or reliability does not depend on the distribution of the underlying data.

Nonphysical Contaminant—Recognized contaminant that does not consist of any tangible, physical substance.

Nonsampling Error—The error reflected in ratio study statistics from all sources other than sampling error. While nonsampling error is unavoidable due to the inefficiencies inherent in real property markets, the imperfections of the appraisal process, and the imperfections of conducting ratio studies, all practicable steps must be taken to minimize nonsampling error in ratio studies.

Normal Distribution—A theoretical distribution often approximated in real-world situations. It is symmetrical and bell-shaped; 68 percent of the observations occur within one standard deviation of the mean, and 95 percent within two standard deviations.

Normal Goods—Goods the consumption of which increases as consumers' income increases.

Note—An agreement acknowledging and promising to repay a debt.

Null Hypothesis—A hypothesis that one chooses to accept in the absence of sufficient evidence to the contrary.

Numerator—In a fractional expression, the number that is divided by some other number (the denominator). For example, 3 is the numerator of the fraction $3/4$, 4 is the denominator.

O

Object of Tax—(1) The objective element on which a tax is imposed. (2) The aims or purposes for which the tax is designed. Note: This term, as defined in (1) above, does not seem to be distinguished adequately from "measure of tax," "subject of tax," and "tax base." Such distinction as can be drawn is pedantic, and the use of the term in this sense is not recommended. It is also recommended that the term "purpose of tax" be substituted for the second usage given above. *Compare* **measure of tax; subject of tax; tax base.**

Objective—The quality of being definable by specific criteria without the need for judgment. Quantitative variables are objective.

Objective Data—Objective data are variables for which the correct value can be verified. Examples include zoning, corner lot (yes or no), land area, and front feet.

Observation—One recording or occurrence of the value of a variable, for example, one sale ratio among a sample of sales ratios.

Observed Condition Breakdown Method—This divides depreciation into all its various components—curable physical deterioration, incurable short-lived-item physical deterioration, incurable basic structure (long-lived items) physical deterioration, curable functional obsolescence, incurable functional obsolescence, and economic (external) obsolescence—often for each major building component.

Obsolescence—A decrease in the value of a property occasioned solely by shifts in demand from properties of this type to other types of property and/or to personal services. Some of the principal causes of obsolescence are: (1) Changes in the esthetic arts; (2) changes in the industrial arts, such as new inventions and new processes; (3) legislative enactments; (4) change in consumer demand for products that results in inadequacy or overadequacy; (5) migration of markets that results in misplacement of the property. *Contrast depreciation, physical; depreciation, economic.*

Occupancy—The act of taking or holding possession of property.

Occupancy Ratio—(1) The ratio of the occupied units (for example, square feet of floor space, living units, or rooms) of a property to the total available units. (2) The ratio of the actual gross income from leased units of a property to the total gross income that would be obtained if all units were leased at standard rates.

Off-Line Equipment—Computing machinery not under the direct control of the computer's central processing unit.

Offsets—Environmental permits allow certain amounts of air pollutants to be released into the environment. If an industry wishes to expand and increase air pollution emissions, it may first be required to reduce its current level of emissions, so that the expanded plant will not emit more air pollution than did the original plant. A company may also trade air pollution allowances with another company to facilitate expansion of the first company. Both these exchanges (intercompany and intra-company) are called "offsets."

On-Line—See **interactive**.

One-Third, Two-Thirds Rule—An empirical rule that ascribes half of the value of a lot to the front third and the other half to the rear two-thirds. *Compare 4-3-2-1 rule; Harper rule; Hoffman rule.*

Open Market—A freely competitive market in which any buyer or seller may trade and in which prices are determined by competition.

Operating Expenses—Expenses necessary to maintain the flow of income from a property. These are deducted from effective gross income to obtain net operating income, which is then capitalized in the income approach to obtain an indication of market value. Such expenses generally include the costs of property insurance; heat, water, and other utilities; repairs and maintenance; replacement reserves for such items as heat and air-conditioning systems, water heaters, built-in appliances, elevators, roofing, floor coverings, and other items whose economic life will expire before that of the structure itself; management; and other miscellaneous items necessary to operate and maintain the property. Not considered operating expenses are depreciation charges, debt service, income taxes, capital improvements, and personal or business expenses of the owner. In addition, for assessment purposes, property taxes are usually treated as an adjustment to the capitalization rate rather than as an expense item.

Operating Leased Property—Property under an operating lease not included as an asset on the books of the lessee company.

Operating Property—See **property, operating**.

Operating Statement—Summarizes in writing the gross income, annual expenses, and resulting net operating income of a business during a specified period of time.

Operating Unit—(1) The property, taken as a whole, that is used in a public utility operation. (2) A term used to define an integrated set of assets whose value is based on the interaction and contribution of the assets as a whole.

Opportunity Cost—The principle that the cost of a resource for one use is the value of the resource in its best alternative use.

Optical Character Recognition (OCR)—The ability of some kinds of computing machinery to translate a written symbol, such as a handwritten number or a letter typed on one of a few standard typewriters, into electrical pulses processable by the rest of the machinery, thereby avoiding the necessity for keypunching.

Orderly Liquidation Value—The amount of gross proceeds that could be expected from the sale of the appraised assets, held under orderly conditions, given a period of time in which to find a purchaser(s), considering a complete sale of all assets, as is, where is, and all sales made free and clear of all liens and encumbrances.

Ordinance—A statute or law that designates an enactment by a county's or municipal corporation's legislative body.

Original Cost—See **cost, original**.

Origination Fee—A fee charged by a lender (called the loan “originator”) for making a real estate loan.

Orthographic Projection—A map-plotting system whereby parallel lines project from points on the sphere to a plane tangent to the sphere at the map center.

Orthophoto Mosaic—An assembly of orthophotographs, usually precisely controlled, to form a uniform-scale photographic representation of a portion of the earth's surface.

Orthophotograph—A photograph derived from perspective photographs and equivalent to a photograph made by orthographic projection. In a perfect orthophotograph, there are no displacements of images because of tilt or relief.

Orthophotomap—A photomap prepared from an orthophotograph or a precisely controlled assembly of orthophotographs; generally published in standard map format.

Orthophotoquad—An orthophotograph or mosaic of orthophotographs at the size of a standard quadrangle (a scale of 1:24,000) with little or no cartographic work added to it.

Orthophotoscope—An instrument for converting conventional perspective photographs into orthophotographs by differential rectification.

Other and Unallocable—Includes any property not classified within any of the preceding groups. Examples are mineral rights, timber rights, and oil rights, if they are separately assessed as real estate.

Outliers—Observations that have unusual values, that is, they differ markedly from a measure of central tendency. Some outliers occur naturally; others are due to data errors.

Outlot—A relatively large lot that is included within the boundaries of an original or subdivision plat, but that is excepted from the general platting pattern for building lots and is usually intended for occupancy (as, for example, a truck farm or country estate).

Outputs—(1) Goods produced by a firm. (2) The information returned by a computer to its user.

Overadequacy—The inability of a property to yield a reasonable return on value of the land and the reproduction cost of improvements (less accumulated physical depreciation) because of its adaptation to the production of more goods or services that can be profitably sold in the market available to it. See **superadequacy** and **functional obsolescence**.

Overall Age/Life Method—Method of estimating accrued depreciation based on straight-line depreciation in which the building is assumed to depreciate by a constant percentage each year over its economic life.

Overall Property Tax Rate Limits—A form of tax and expenditure limitation, applicable to all governments in the state, in which an upper limit is placed on either the property tax rate or the rate of increase in the property tax rate.

Overall Rate (OAR)—A capitalization rate that blends all requirements of discount, recapture, and effective tax rates for both land and improvements; used to convert annual net operating income into an indicated overall property value.

Overimprovement—An improvement whose cost exceeds the cost of an alternative improvement by more than the excess of the present worth of the given improvement and the land over the present worth of the alternative improvement and the land, often because a structure is too large or too costly for the most profitable use of the site. *Contrast* underimprovement.

Overlap—The amount by which one photograph duplicates the area covered by another photograph, usually expressed as a percentage. Overlap may be end or forward (along the flight path) or side taken during two or more parallel flights); both end and side overlap are customary when more than one line is flown.

Overlay—(1) A transparent medium on which data or features (for example, floodplains, flight lines and/or area to be photographed) are plotted to be superimposed on a map, thus avoiding defacing the map. (2) Digitally merging two digital data sets.

Owner, Equitable—One who, under rules of equity, has rights to some or all of the benefits deriving from property, although legal ownership and actual possession may be vested in another person. See **beneficiary** and **cestui que trust**.

Owner, Legal—One who has dominion over property under the rules of law, as distinguished from rules of equity.

Ownership—The rights to the use of property, to the exclusion of others.

P

Panchromatic—Photographic emulsion sensitive to all colors of light.

Panel—(1) A target used for ground control or point identification during aerial photography. (2) A group of individuals who are engaged for some service because of their expertise.

Paneling—Marking points on the ground with material of suitable contrast, size, and shape to provide images that can be positively identified on aerial photographs.

Par Value—The face value of an item of intangible property that has both a stated face value and a fluctuating market value; applied especially to corporate stocks.

Parallax—The apparent displacement of position of a body with respect to a reference point or system of coordinates, caused by moving the point of observation.

Parallel, Geographic—A line on the earth, or a representation thereof, that represents the same latitude at every point. Also called a parallel of latitude or, when no misunderstanding is possible, a parallel.

Parameter—Numerical descriptive measure of the population, for example, the arithmetic mean or standard deviation. Parameters are generally unknown and estimated from statistics calculated from a sample of the population.

Parametric Statistic—A statistic whose interpretation or reliability depends on the distribution of the underlying data.

Parcel—A contiguous area of land described in a single legal description or as one of a number of lots on a plat; separately owned, either publicly or privately; and capable of being separately conveyed.

Parcel Identification Number—A numeric or alphanumeric description of a parcel that identifies it uniquely. Assessors use various systems, many with common features. A growing number of these systems include geocoding. In the thirty states where it exists, the Public Land Survey System, authorized by the United States government in 1785, is often a basis for parcel identification.

Parcel Identification System—The scheme by which parcel identifiers are generated. Parcel identifiers are constructed from elements relating them to surveying systems, map projection systems, map-page numbers, and geographic areas.

Parcel Identifier—A code, usually numerical, representing a specific land parcel's legal description. The purpose of parcel identifiers is to permit reference to legal descriptions by using a code of uniform and manageable size, thereby facilitating record-keeping and handling. Also called parcel identification number.

Parcel of Land—A contiguous urban or rural land area that is considered as a unit, is subject to single ownership, and is legally recorded as a single piece. *Compare* **lot**; **plot**.

Partial Equilibrium—Equilibrium of individual economic units or subsections of the economy in light of constraints imposed from outside the unit.

Partial Equilibrium Analysis—An analysis of one unit of the economy in light of constraints imposed by economic forces outside the unit. An example would be a highest and best use analysis of vacant land where the land use is limited by zoning.

Partial Exemption—The amount of otherwise-taxable assessed value removed from tax liability by constitutional and/or statutory action. Examples of partial exemptions are those for qualifying homesteads, veterans, and senior citizens.

Partial Interest—An interest (in property) that is less complete than a fee simple interest.

Partial Payment Factor—Also known as the “amortization” or “periodic repayment” factor. The equal periodic payment that has a present worth of \$1, for a specified number of periods and at a specified discount rate.

Partial Taking—Taking of part rather than all of real property by means of eminent domain. Compensation will be both for the part taken and for any loss of value affecting the remainder.

Partnership—An association of two or more persons to carry on as co-owners of a business under a partnership agreement.

Passive System—A sensing system that detects or measures radiation emitted by the target.

Patent—(1) The exclusive right granted by a government for a limited period to an inventor, his or her heirs, legatees, or assigns, to make, use, and vend an article or process invented by him or her. (2) The instrument by which government lands are granted to private persons under the proceedings set forth in the general statutes. See **land, patented**.

Percent Condition—The difference between observed physical depreciation, expressed as a percentage of original or reproduction cost, and 100 percent.

Percent Good—An estimate of the value of a property, expressed as a percentage of its replacement cost, after depreciation of all kinds has been deducted.

Percent of Cost—A technique of valuation by establishing the ratio of the sale price to the cost new of an asset at the time of sale. With sufficient data, similar property can be analyzed statistically and relationships developed between age, selling price, and cost; it is logical then to estimate value by determining the current cost of the subject and applying the appropriate percentage.

Percentile—The values that divide a set of data into specified percentages when the data are arrayed in ascending order. The tenth percentile includes the lowest 10 percent of the values, the twentieth percentile includes the lowest 20 percent of the values, and so forth.

Perfect Competition—The requirements of pure competition plus an additional condition of perfect knowledge on the part of buyers and sellers about all activity in the marketplace.

Perfect Market—In economics, a market in which neither sellers nor buyers individually or collectively have a competitive advantage and in which the things traded are homogenous. The stock market is a more nearly perfect market than a real estate market.

Performance Bond—Insurance issued by a third party to guarantee the satisfactory completion of a contract.

Performance Ratio—A ratio of the income of an investment to its cost that reflects historical performance of the investment.

Perimeter Sketch—A graphic presentation of the boundaries of a property, either the land or the buildings on the land.

Period, Assessment—See **assessment period**.

Personal Effects—Personal effects are items of tangible personal property that an individual normally wears, carries, or uses in activities that do not involve the production of income.

Personal Judgment—Courts may issue a personal judgment against the defendant in a delinquent tax suit. This judgment holds the person named in the suit personally liable for a delinquent property tax and exposes his or her personal assets to payment of the obligation.

Personal Property—See **property**.

Personal Property Specialist (PPS)—A professional designation conferred by the International Association of Assessing Officers.

Personalty—A synonym for personal property.

Phase I and II Reports—Used for properties that may be affected by contamination. Phase I reports include historical information about the subject property and the neighborhood, and a review of pertinent government records to determine any prior violation

pertaining to hazardous wastes or substances. This report requires physical inspection of the property. Phase II reports are required when potential problems are identified in the Phase I study. Phase II is an in-depth study of groundwater, air, soils, and improvements, to determine existence of any hazardous waste or substance, or other contaminant. See **environmental assessment**.

Photogrammetry—(1) The art and science of obtaining reliable measurements by means of photography. (2) The making of maps based on aerial photographs taken under rigidly controlled conditions.

Photogrammetry, Aerial—Photogrammetry in which photographs or other images of the earth taken from aircraft or satellites are used.

Photogrammetry, Analytical—Photogrammetry in which the shape and size of an object are determined mathematically from measurements directly on the images, rather than mechanically from measurements on the stereoscopic model.

Photograph—A representation of objects formed by the action of light on silver halide grains within an emulsion.

Photographic Map—An actual picture of a piece of land. The majority of photographic maps are taken from airplanes or from satellites.

Photography—The process of producing images on sensitized material by exposure to light.

Photomap—An assemblage of aerial photographs that, wholly or partially, substitutes for or supplements a map. The photographs may or may not be rectified or restituted.

Photomosaic—An assemblage of photographs, each of which shows part of a region, put together in such a way that each point in the region appears once and only once in the assemblage, and scale variation is minimized.

Phototriangulation—(1) The determination of horizontal or vertical coordinates from measurements of angle, distance, or coordinates of points on overlapping photographs. (2) The method by which horizontal or vertical control is determined from measurements of angle, direction, or coordinates of points on overlapping photographs.

Physical Contaminant—Any substance recognized as hazardous by the EPA or local or regional authorities. See **hazardous substances**.

Physical Deterioration—A cause of depreciation that is a loss in value due to ordinary wear and tear and the forces of nature.

Pilot Testing—Attempting to determine the workability of a system by testing it under realistic operating conditions before adopting it and abandoning the former system.

Pixel—An element of surface resulting from subdividing an image into the smallest identically shaped figures that give information about the location, intensity, and perhaps color of the source, but of which no smaller subdivision will provide more information. The concept “pixel” (diminutive of “picture element”) is valid only for images made up of discrete patches. It is not valid for continuous images. The term is sometimes assumed to be the equivalent of resolution expressed in terms of area. However, it is not exactly equivalent, because resolution can be defined for pictures that do not contain pixels. The size of a pixel is set principally by the size of the smallest individual radiation-sensitive element in the instrument creating the image. For example, in the human eye, the pixel region is the region occupied on the retina by a cone.

Place of Business, Principal—See **principal place of business**.

Plat—A map intended to show the division of land into lots or parcels. Upon recordation with the appropriate authorities, land included in the plat can thenceforth be legally described by reference to the plat, omitting a metes and bounds description.

Plat, Original—A plat constituting the original plan or layout of a municipality and showing its location and division into blocks and lots.

Plat, Private—A privately prepared plat that has not yet been accepted by the constituted authority.

Plat, Recorded—A plat that has been accepted by the constituted authority and that may henceforth be used as the basis for a legal description of land within its boundaries.

Plat, Subdivision—A plat showing the location of a subdivision and its layout into lots, streets, alleys, and the like.

Plat, Township—A plat of a survey township prepared by, or under the direction of, the United States General Land Office.

Platbook—A book containing a series of plats that are used by assessors as tax maps. See **map, tax**.

Platform (Sensor)—Vehicle on which a remote sensing device is mounted and carried aloft; an aircraft platform, space platform.

Plot—(1) A relatively small area of land, generally used for a specific purpose. (2) A measured area of land; lot.

Plottage—(1) Those factors of size, shape, and location with reference to other plots that add or detract from the value of a plot for a given purpose (preferred). (2) The assembling of adjacent parcels of land into a single unit. (3) The excess cost of assembling adjacent parcels of land into a single unit under single ownership over the estimated cost at which such parcels might be acquired individually by independent purchasers. (4) plottage value. Note: Because of the variety of meanings attached to this term and its derivatives, it is suggested that the more descriptive term “assemblage” and its derivatives be used to convey all of the above meanings except the first. *Compare* **assemblage**.

Plottage Value—(1) The increment of value ascribed to a plot because of its suitability in size, shape, and/or location with reference to other plots (preferred). (2) The excess of the value of a large parcel of land formed by assemblage over the sum of the values of the unassembled parcels. *Compare* assembly value.

Point Estimate—A single numerical value that can be used to estimate a population parameter. It is calculated on the basis of information collected from a sample. Point estimates are generally constructed to provide the best unbiased estimate of the population parameter consistent with the sample data. However, the point estimate is only an estimate, and is unlikely to have the same value as the population parameter. (See **Confidence interval** and **Reliability** for discussion of precision of the sampling process.)

Point, Merge—See **merge point**.

Points—Prepaid interest on a loan; one point is equal to 1 percent of the amount of the loan. It is common to deduct points in advance of the loan, so that an individual pays interest on 100 percent of the loan but gets cash on, say, only 99 percent.

Pole—See **rod**.

Police Power—The power of the state that curtails individual rights for the health, safety, and general welfare of all society.

Polygon—A line chart.

Pooled Regression—Combining two or more strata to form one regression model.

Population—All the items of interest, for example, all the properties in a jurisdiction or neighborhood; all the observations in a data set from which a sample may be drawn.

Position—A numerical or other description of the location and orientation (attitude) of a point or object. In particular, in geodesy and navigation, (a) data that give the location of a point in a specific coordinate system, (b) the place occupied by a point on the earth, (c) the coordinates giving the location of a point on the geoid or ellipsoid.

Position, Geographic—The location of a point on the surface of the earth, expressed in terms of either geodetic or astronomic latitude and longitude. Geo-position is a contraction of this term.

Positioning System—Generally, a system (equipment, procedures, and personnel) used for locating a vehicle or, less frequently, an instrument. A navigation system can also be used for positioning, but a system designed specifically for positioning generally gives more accurate locations.

Positioning System, Doppler—A positioning system consisting of a radio receiver at the point whose coordinates are to be determined, one or more beacons in orbit about the earth, and a computing system for determining the orbits of the beacons.

Positioning System, Inertial—A positioning system consisting of a computer and an assemblage of three accelerometers and two or three gyroscopes.

Positioning System, Radio—A positioning system in which the travel time or phase shift of radio waves is measured.

Positioning System, Satellite—A positioning system consisting of a radio receiver, or a receiver and transmitter, at the point whose location is to be determined, one or more beacons or transponders in orbit about the earth, and a computing system for determining and predicting the orbits.

Possession—Physical control of personal or real property.

Possessory Interest—(1) An interest of a person in an article of property arising from a physical relationship to the article of such nature as to confer on him or her a degree of physical control over it, coupled with the intent so to exercise such control as to exclude the general public from use of it. (2) The right to occupy and use any benefit in a transferred property, granted under lease, licenses, permit, concession, or other contract. (3) A private taxable interest in public tax-exempt property, for example, a private service station in a federal military base. Assessment of this interest presents complex valuation problems. Among the issues are whether the ownership or the use is exempt, whether the parcel should be split, and whether market rent differs from contract rent.

Posting—The act of transferring to an account in a ledger the data, either detailed or summarized, contained in a book or document of original entry.

Potential Gross Income—The sum of potential gross rent and miscellaneous income, that is, the income from rent and other sources that a property could generate with normal management, before allowing for vacancies, collection losses, and normal operating expenses.

Potential Gross Rent—The total rent a property would produce if 100 percent occupied at market rent.

Power of Attorney—A written authorization in which one person gives authority to another person to act on his or her behalf.

PPS—See **personal property specialist**.

PRD—See **price-related differential**.

Preaudit—An examination for the purpose of determining the propriety of proposed financial transactions that have already taken place, but that have not yet been recorded, or, if such approval is required, before the approval of the financial transactions by designated officials for recording.

Precision—The level of detail in which a quantity or value is expressed or represented. It can be characterized as the number of digits used to record a measurement. A high level of represented precision may be used to imply a greater level of accuracy; however, this relationship may not be true. Precision also relates to the quality of an operation or degree of refinement by which results are obtained. A method of measurement is considered precise if repeated measurements yield the same or nearly the same numeric value. See **accuracy and statistical precision**.

Preferred Capitalization Rate—(1) The capitalization rate applicable to the band of investment financed by preferred stock. (2) A component of the overall direct capitalization rate calculated by dividing dividends by the market value of preferred stock.

Preferred Stock—See **stock, preferred**.

Preprocessing—Application of digital image processing techniques to the raw remote sensor data before visual or further machine-assisted image analysis.

Present Worth—(1) The value of something after discounting future payments and receipts. (2) The present value of income that is expected to be received at some future date or dates, as ascertained by the process of discounting both the income and the anticipated expenses incident to its receipt, that is, the amount of money that, if presently invested and allowed to accumulate at compound interest, would yield net income in the same amounts and at the same intervals as is anticipated of a given property. Synonymous with “capital value” and “present value.”

Present Worth of 1—(Also called the reversion factor.) The lump-sum amount that would have to be set aside to accumulate with compound interest to \$1 at the end of a specified number of years and at a specified rate of interest. Alternatively, it can be viewed as the present value of \$1 receivable at the end of a specified number of years and discounted at a specified rate.

Present Worth of 1 per Period—(Also called the annuity factor, or Inwood coefficient.) The present worth of a series of payments of \$1, receivable at the end of each year, for a specified number of years and at a specified interest rate.

Price—The amount asked, offered, or paid for a property. (See **USPAP** for additional comments.)

Price, Adjusted Sale—The sale price that results from adjustments made to the stated sale price to account for the effects of time, personal property, atypical financing, and the like.

Price, Market—The value of a unit of goods or service, expressed in terms of money, as established in a free and open market. Note: This term is sometimes distinguished from “market value” on the ground that the latter term assumes that buyers and sellers are informed, but this assumption is also implied by the phrase “free and open market.” *Compare price, sale.*

Price, Sale—(1) The actual amount of money exchanged for a unit of goods or services, whether or not established in a free and open market. An indicator of market value. (2) Loosely used synonymously with “offering” or “asked” price. Note: The sale price is the “selling price” to the vendor and the “cost price” to the vendee.

Price-Earnings Ratio (P/E)—The ratio of the market price per share of the common stock of a specific company to the earnings per share of common stock of that company during a twelve-month period. Typically, the ratio is based on the current market price and the most recent twelve-month period for which earnings are known. This ratio is the reciprocal of the earnings-price ratio (E/P).

Price Equilibrium—In a specific period, that price at which the quantity that buyers want is exactly equal to the quantity that sellers want to sell.

PRB—See **coefficient of price related bias.**

Price-Related Differential (PRD)—The mean divided by the weighted mean. The statistic has a slight bias upward. Price-related differentials above 1.03 tend to indicate assessment regressivity; price-related differentials below 0.98 tend to indicate assessment progressivity.

Price-to-Book Multiple (P/Book)—See **equity market multiple.**

Primary Assessing Jurisdiction—The unit of government having initial responsibility for determining the assessed value against which general property taxes are levied by local government and, where applicable, by state government.

Principal Meridian—See **meridian, principal.**

Principal Place of Business—The place at which the person or persons responsible for the management of a business enterprise exercise their managerial powers. Note: Generally the president, treasurer, and chairman of the board of directors have their headquarters at the principal place of business. The board of directors will probably meet here, and, at any rate, the policies determined by the board will be put into operation by or through the offices at this place. The principal place of business in any given state may be a district or even a branch office.

Principle of Anticipation—The appraisal principle that value depends on the expectation of benefits to be derived in the future.

Principle of Balance—The principle of balance as used in appraising is that the greatest value in property will occur when the type and size of improvements and uses are proportional to each other as well as to the land.

Principle of Change—The principle of change asserts that all markets are in a continual state of change. According to this principle, properties generally go through the three stages of integration (development), equilibrium (stasis), and disintegration (decline).

Principle of Conformity—The principle of conformity states that the value of a group of properties will rise to its highest possible level in an area where architectural styles are reasonably homogeneous and surrounding land uses are compatible with the use of the specified properties.

Principle of Contribution—The principle of contribution requires an appraiser to measure the value of any improvement to a property by the amount it contributes to market value, not by its cost.

Principle of Progression—The principle of progression holds that the worth of an inferior property is increased by its proximity to better properties of the same use class.

Principle of Substitution—The principle of substitution states that no buyer will pay more for a good than he or she would have to pay to acquire an acceptable substitute of equal utility in an equivalent amount of time.

Private Encumbrances—Private hindrances that affect value and sale price such as easements, condominium controls, and deed or subdivision restrictions.

Private Restrictions—Private parties, such as a group of homeowners, may establish private restrictions on ownership rights. Deed restrictions are a common form of private restriction.

Procedural Edit—An audit, or review of operations, intended to discover erroneous and inefficient practices.

Production Function—The physical relation between a firm's resource inputs and the output of goods and services per unit of time.

Productive Value—In monetary terms, the capacity of a property to produce or contribute to production.

Productivity Value—Productivity value measures the worth of land based on its income-producing ability in its current use. Owners of farm and ranch property apply for agricultural-use or open-space valuation (both are forms of productivity value) to avoid having their properties assessed at a different highest and best use that would bring higher assessed values and presumably higher taxes. *Compare use value.*

Profit and Loss Statement—An accounting statement that shows the income and expenses of a business over a specified time.

Progressivity—*See assessment progressivity (regressivity).*

Projection—A systematic drawing of lines on a plane surface to represent the parallels of latitude and meridians of longitude of the earth or a section of the earth.

Property—(1) An aggregate of things or rights to things. These rights are protected by law. There are two basic types of property: real and personal. (2) The legal interest of an owner in a parcel or thing (*see bundle of rights*).

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

Personal Property—Consists of every kind of property that is not real property; movable without damage to itself or the real estate; subdivided into tangible and intangible. Also called "personalty."

Tangible Personal Property—Personal property that has a substantial physical presence beyond merely representational. It differs from real property in its capacity to be relocated. Common examples of tangible personal property are automobiles, boats, and jewelry.

Intangible Personal Property—Property that has no physical existence beyond merely representational, nor any extrinsic value; includes rights over tangible real and personal property, but not rights of use and possession. Its value lies chiefly in what it represents. Examples include corporate stock, bonds, money on deposit, goodwill, restrictions on activities (for example, patents and trademarks), and franchises. Note: Thus, in taxation, the rights evidenced by outstanding corporation stocks and bonds constitute intangible property of the security holders because they are claims against the assets owned and income received by the corporation rather than by the stockholders and bondholders; interests in partnerships, deeds, and the like are not ordinarily considered intangible property for tax purposes because they are owned by the same persons who own the assets and receive the income to which they attach.

Property, Distributable—(1) Property subject to central assessment that is certified by the central assessing officer or body to local tax districts, according to the property's actual or constructive tax within such districts, for inclusion in the local assessment and/or tax rolls. See **assessment, central**. (2) The personal property of an intestate available for distribution by the administrator to the heirs.

Property, Income—A property that yields to its owner a gross money income.

Property, Investment—A property that has been developed with the intention and expectation of renting it, in whole or in part, for profit. (Term not recommended for use.)

Property, Noninvestment—A property that has not been developed with the intention and expectation of renting it, in whole or in part, for profit. (Term not recommended for use.)

Property, Nonoperating—Property not included in the unit being appraised, usually where the nonoperating property is not necessary to the operation of the unit and is readily assessed locally.

Property, Nonrepresentative Intangible—(1) Intangible property that, while constituting an asset of the owner, does not at the same time represent a liability of another person; for example, patents, copyrights, trademarks, goodwill, and special franchises (preferred). (2) Intangible property that does not represent an interest of any sort in specified tangible property; for example, goodwill, patents, unsecured personal notes, accounts receivable. Note: The term “liability,” as used in this definition, includes the equitable obligations of a corporation to its stockholders.

Property, Operating—(1) Property actually used in the business of the owner, as distinguished from intangible property representing investments in property actually used in the business of some other person or persons. (2) As applied to public utilities, the property actually used in a public service enterprise conducted by the owner, as distinguished from intangible property representing investments in property actually used in the business of some other person or persons and the property used by the owner in the conduct of a nonpublic service enterprise. Synonymous with “operative property.” See **property, nonoperating**.

Property, Personal—See **property**.

Property, Ratable (or Rateable)—Taxable property.

Property, Real—See **property**.

Property, Representative Intangible—(1) Intangible property that, while constituting an asset of the owner, represents, at the same time, a liability of another person (preferred). (2) Intangible property that represents an interest of some sort in specified tangible property; for example, a mortgage or a share of stock. Note: The term “liability,” as used in this definition, includes the equitable obligations of a corporation to its stockholders.

Property, Service—A property, such as a church, school, or hospital, that is not operated for profit and has no marketability in the ordinary sense of the term. (Term not recommended for use.) Note: The division of properties into “investment,” “noninvestment,” and “service” properties is made on the assumption that investment properties can be appraised by capitalization of income, noninvestment properties by comparison with properties recently sold, and service properties by neither method.

Property Line—The boundary line that defines a parcel of land.

Property Record Card (Form)—An assessment document with blanks for the insertion of data for property identification and description, for value estimation, and for property owner satisfaction. The basic objectives of property record forms are, first, to serve as a repository of most of the information deemed necessary for identifying and describing a property, valuing a property, and assuring property owners that the assessor is conversant with their properties, and, second, to document property appraisals. Use of properly designed property record forms permits an organized and uniform approach to amassing a property inventory.

Property Residual Technique—A technique used to estimate the value of a property from a knowledge of its net operating income, discount rate, remaining economic life, the amount of the reversion, and the income path attributable to the property over the holding period (generally the remaining economic life of the property). The technique estimates total value by discounting anticipated income and adding the result to the present worth of the reversion.

Property Rights—See **bundle of rights**.

Property Split—A result of the sale of property held by a single owner such that different pieces of the property are owned by different owners. Splits may or may not occur along plat lines. Assessors need to monitor splits not only to ensure the correctness of the property listing, but also to monitor the land and its adequacy as a lien against past and present tax liabilities.

Property Tax Base—See **assessment base**.

Property Tax Levy—(1) The total amount of money to be raised from the property tax as set forth in the budget of a taxing jurisdiction. (2) Loosely, by extension, the millage rate or the property tax bill sent to an individual property owner.

Property Tax Levy Limits—A form of tax and expenditure limitation, applicable to all local governments in the state, in which an upper limit is placed on either the proceeds of the property tax or the rate of growth in the proceeds of the property tax.

Property Tax Policy—Any purposeful course of action by governmental bodies that affects or determines the way property taxes are created, levied, collected, or spent. Property tax policy issues can include determining the division of responsibility between local

and state/provincial governments, equalization, appeals, public relations, reappraisal systems, the market value standard, exemptions and abatements, fractional assessments (ratios), and limits on taxes and assessed values.

Property Taxes—See **tax, general property; tax, property; tax, special property.**

Property Use Category—A United States Census Bureau classification scheme based on actual utilization of real property. There are seven classes of real property:

Residential (Nonfarm) Single-Family—Includes each detached, semidetached, or attached house, if separately assessed and not on a farm, that is a residence for one family only. For detached houses, this would include one-family rural properties or suburban estates not used primarily for farming, and mobile homes assessed as real property. This category includes each condominium unit in a multiunit dwelling structure, plus each condominium's share of the common area, unless the common area is separately assessed.

Residential (Nonfarm), Multifamily—Includes each residential property that contains two or more living units, including duplexes, apartment houses, and cooperatives that are assessed as a single entity. The category encompasses street level stores and doctors' offices in apartment buildings, but excludes motels or hotels.

Acreage (or "Acreage and Farms")—Includes farms, timberland, recreational acreage, idle land, and waste land in rural locations. Excludes vacant platted lots that lie within or adjacent to a municipality and that usually carry a lot/block system designation rather than acreage. Separately assessed timber or mineral rights are omitted from this category.

Vacant Platted Lots—Unimproved parcels described in terms other than acreage, usually by a convention using lot, block, and subdivision name. Vacant platted lots are often located either within a municipality or in areas of higher population density than the surrounding territory.

Commercial Property—Generally any nonindustrial, nonresidential realty of a commercial enterprise. Includes realty used as a retail or wholesale establishment, retail establishment with living quarters, office building, hotel or motel, gasoline service station, commercial garage, parking lot, warehouse, theater, bank, clinic, nursing home, proprietary school, and the like.

Industrial Property—Generally any property used in a manufacturing activity, including a factory, wholesale bakery, dairy plant, food processing plant, mill, mine, quarry, all locally assessed utility property, and the like.

Other and Unallocable—Includes any property not classified within any of the preceding groups. Examples are mineral rights, timber rights, and oil rights, if they are separately assessed as real estate.

Proprietary Lease—See **lease, proprietary**.

Protraction—In land and cadastral surveying, the subdivision of land by drawing or extending lines on maps or plats of the region being subdivided. The lines are drawn before surveying and monumenting the subdivisions and are therefore indicated by dashed, straight lines.

Public Land Survey System (PLSS)—A rectangular survey system established in the United States by the Land Ordinance of 1785. The basic survey unit is the six-square-mile township. Townships are located by baselines and meridians parallel to latitude and longitude lines; they are defined by range lines running parallel (north-south) to meridians and township lines running parallel (east-west) to baselines.

Public Policy—Any purposeful course of action by governmental bodies (whether successful or unsuccessful and whether implementable or not).

Pure Competition—A market situation in which (1) individual buyers or sellers of an item buy or sell an amount too small relative to the market to be able to influence the price of the good, and (2) the units of the item are homogeneous.

Q

Qualified Sale—A property transfer that satisfies the conditions of a valid sale and meets all other technical criteria for inclusion in a ratio study sample. If a property has undergone significant changes in physical characteristics, use, or condition in the period between the assessment date and sale date, it would not technically qualify for use in ratio study.

Qualitative Data—Pertaining to the subjective nature of some variable of interest. For example, view, fire protection, quality, or site/location.

Qualitative Variable—Something that can be appreciated but not objectively reduced to an unambiguous scale. For example, view is a qualitative variable.

Quality Class—A subjective classification of a structure by an appraiser, intended to describe materials used, workmanship, architectural attractiveness, functional design, and the like. Quality class, or its synonym “grade,” is the key variable in most cost schedules.

Quantitative Variable—Pertaining to the objective nature of some variable of interest, that is, something that can be measured or counted with little ambiguity. For example, number of bathrooms is a quantitative variable.

Quantity Survey Method—A method of estimating reproduction cost in which a complete itemization is made of all labor and material costs by component and subcomponent and all indirect costs; these are added to obtain an estimate of the cost of a structure or a reasonable bid for a contractor to submit on a proposed project.

Quarter Section—A subdivision of a section containing 160 acres more or less, described by referencing the center point in the section, that is, the NE + is north and east of the center point.

Quartiles—The values that divide a set of data into four equal parts when the data are arrayed in ascending order. The first quartile includes the lowest quarter of the data; the second quartile, the second lowest quarter, and so forth.

Quasi Rent—See **rent, economic**.

Quitclaim Deed—See **deed, quitclaim**.

Quotient Transformation—A transformation of two or more variables accomplished by dividing one by the other. For example, the length of a room is a quotient transformation of its area and its width. Like the multiplicative transformation, many useful quotient transformations are less intuitively obvious than the one in the example given.

R

Radar, Side-Looking—A form of radar, mounted on aircraft, in which the beam is pointed, either by scanning or by shaping, in a direction perpendicular to the longitudinal axis of the aircraft so that the returned signals come from a long, narrow strip of ground approximately parallel to the airplane's line of flight. The ground is mapped as a set of adjacent, overlapping strips.

Radar, Synthetic-Aperture—A radar containing a moving or scanning antenna; the signals received are combined to produce a signal equivalent to that which would have been received by a larger, stationary antenna.

Radiation—Process by which electromagnetic energy is propagated through free space by virtue of joint undulatory variations in the electric and magnetic fields in space.

Radon—Radioactive gas that may enter structures from beneath the ground level and contaminate the air within.

Random Sample—A sample for which each item of the population has an equal chance of being included and, by extension, each possible combination of n items has an equal chance of occurrence.

Range—(1) The maximum value of a sample, minus the minimum value. (2) The difference between the maximum and minimum values that a variable may assume.

Range Line—One of a series of survey lines running due north and south at six-mile intervals, used for locating parcels of land under government survey. See **meridian, principal**. Contrast **township line**.

Rank—(1) The position of an item relative to others in a set ordered according to the value of each member of the set in relation to the others. (2) The act of ordering the members of a set according to the value of each member in relation to the others. For example, the numbers 0.95, 0.87, 1.09, and 0.83 have ranks of 3, 2, 4, 1. See **Spearman rank test**.

Raster Image—An image represented by a series of lines and samples.

Ratables (or Rateables)—Synonymous with property, ratable.

Rate, Capitalization—See **capitalization rate**.

Rate, Discount—See **discount rate**.

Rate, Mill—See **mill rate**.

Rate, Tax—See **tax rate**.

Rate-Driven Levy—The property tax rate to be applied is specified in the budget or tax levy ordinance of a taxing jurisdiction, as opposed to the usual situation in which the total revenue to be raised is specified and the rate is calculated. See **tax and expenditure limitations**.

Rate Base—Under perfect regulation, the dollar amount on which a return is allowed as established by a regulatory agency.

Rate of Return—See **discount rate**.

Ratio, Assessment—See **assessment ratio**.

Ratio, Occupancy—See **occupancy ratio**.

Ratio Study—A study of the relationship between appraised or assessed values and market values. Indicators of market values may be either sales (sales ratio study) or independent “expert” appraisals (appraisal ratio study). Of common interest in ratio studies are the level and uniformity of the appraisals or assessments. See **level of appraisal** and **level of assessment**.

Raw Materials—Goods purchased for use as an ingredient or component part of a finished product.

RCN—Replacement cost new or reproduction cost new.

RCNLD—Replacement cost new less depreciation or reproduction cost new less depreciation.

Read-and-Write Instruction—A kind of command embedded in a computer program that has the capability of both accessing a data file and altering it.

Read-Only Instruction—A kind of command embedded in a computer program that has the capability of only accessing the records in a data file, not of altering them.

Real Estate—The physical parcel of land and all improvements permanently attached. *Compare* **real property**.

Real Estate Transfer Documents—The various kinds of deeds whereby real property is conveyed. *Compare* **conveyances**.

Real Property—*See* **property**.

Real Time—To make images or data available for inspection simultaneously with their acquisition.

Realty—(1) Any tangible thing whose fee ownership constitutes real property, that is, land or improvements. (2) A synonym for real estate.

Reappraisal—The mass appraisal of all property within an assessment jurisdiction accomplished within or at the beginning of a reappraisal cycle (sense 2). Also called revaluation or reassessment.

Reappraisal Cycle—(1) The period of time necessary for a jurisdiction to have a complete reappraisal. For example, a cycle of five years occurs when one-fifth of a jurisdiction is reappraised each year and also when a jurisdiction is reappraised all at once every five years. (2) The maximum interval between reappraisals as stated in laws.

Reassessment—(1) The relisting and revaluation of all property, or all property of a given class, within an assessment district by order of an authorized officer or body after a finding by such an officer or body that the original assessment is too faulty for correction through the usual procedures of review and equalization. (2) The

revaluation of all real property by the regularly constituted assessing authorities, as distinguished from assessment on the basis of valuations most or all of which were established in some prior year. See **revaluation**.

Recapture—A portion of the overall capitalization rate in an income approach representing the return of an owner's investment in property, expressed as the current year's percentage of the remaining economic life.

Recapture, Straight-Line—The recovery of capital invested in a wasting asset in equal periodic amounts over the remaining economic life of the asset.

Recapture Rate—The return of an investment; the annual amount that can be recaptured from an investment divided by the original investment; primarily used in reference to wasting assets (improvements).

Receiver—One who is appointed by a court of equity as its representative to manage property owned by an insolvent debtor until the claims of creditors have been met or to manage property that is the subject of a law suit pending its outcome.

Reciprocal—The result obtained when 1 is divided by a given number. For example, the reciprocal of 4 is 0.25. Factors are reciprocals of rates.

Reclamation—The process of physically changing economically unusable land to be suitable for use.

Reconciliation—The final step in the valuation process wherein consideration is given to the relative strengths and weaknesses of the three approaches to value, the nature of the property appraised, and the quantity and quality of available data in formation of an overall opinion of value (either a single point estimate or a range of value). Also termed "correlation" in some texts.

Recordation/Recording—The filing of documents affecting real property for public record, which usually requires the witnessing and notarizing of the document.

Rectangular Coordinates—A land description system where boundaries are described as lines running from points on an X and Y grid.

Rectangular Land Surveys—Land description systems based on permanent, uniformly sized rectangular grids that can be subdivided into smaller units of land.

Rectangular Survey System—See **federal rectangular survey system**.

Rectification—(1) The process by which the geometry of an image area is made planimetric. (2) The process of converting a tilted or oblique photograph to the plane of the vertical by projecting it onto a horizontal reference plane, with the angular relationship determined by the use of control points recognizable on the photograph and an accurate map.

Rectify—To reconcile photographs or other representations of a curved surface, such as the earth, in order to form a single, two-dimensional representation, such as a map, of the surface features on the curved object.

Redemption—The process by which the owner of real property sold at a tax sale buys back the property from the purchaser at an enhanced price within a specified redemption period.

Reflectance—A measure of the ability of a surface to reflect energy in the various regions of the electromagnetic spectrum. Reflectance is affected not only by the nature of the surface itself, but also by the angle of incidence and the viewing angle.

Region of Rejection—In tests of hypotheses, that range in which one has at least the specified degree of confidence that a calculated statistic will not fall when the null hypothesis is true.

Registration—The process of superimposing two or more images or photographs so that equivalent geographic points coincide. Registration may be done digitally or photographically.

Regression Analysis—See **multiple regression analysis**.

Regression Coefficient—The coefficient calculated by the regression algorithm for the data supplied that, when multiplied by the value of the variable with which it is associated, will predict (for simple regression) or help to predict (for multiple regression) the value of the dependent variable. For example, in the equation, $\text{Value} = \$10,000 + \$5,000 \times \text{number of rooms}$, \$5,000 is a regression coefficient.

Regression Line—The line on a graph that represents the relationship defined by the regression coefficients. For example, the line from the relationship given in the definition of regression coefficient would cross the y-axis at the value \$10,000 and would go up \$5,000 for each movement of 1 to the right. This example illustrates one of the subtleties required in understanding regression analysis: in fact, there is no line, because the independent variable is not a continuous variable, but it is easier to talk about the relationship by pretending that the variable is continuous and represent the relationship by a line rather than the more nearly correct series of vertical bars on a bar chart.

Regressivity—See **assessment regressivity (regressivity)**.

Regressivity Index—See **price-related differential**.

Regular Section—A one-square-mile subdivision of a township containing 640 acres.

Regulatory Lag—The time intervening between the initiation of a proceeding before a commission and the effective date of the final decision or disposition of the case.

Regulation—For public utilities, the action of government as arbitrator between a (usually monopoly) utility and its customers. The goal is to balance just and reasonable rates and terms of service with fair profits.

REIT—Real estate investment trust; combines capital of many investors to acquire or finance real estate through formation of a corporation whose shares are traded in a market.

Reject Code—A flag applied to a record indicating that it should not be used for certain purposes.

Reliability—In a sampling process, the extent to which the process yields consistent population estimates. Ratio studies typically are based on samples. Statistics derived from these samples may be more or less likely to reflect the true condition in the population depending on the reliability of the sample. Representativeness, sample size, and sample uniformity all contribute to reliability. Formally, reliability is measured by sampling error or the width of the confidence interval at a specific confidence level relative to the central tendency measure.

Relationship—The phenomenon whereby knowledge of the value of one variable tells you something about the probable value of another. (See **correlation**.) Relationships may be positive (an increase in the value of one variable implies an increase in the value of the other variable) or negative (a change in the value of one variable implies a change in the other direction for the value of the other variable). Independence of two variables means that there is no relationship between them.

Relief—The variation in elevation between the high and low parts of a surface.

Remainder—(1) A remainderman’s ownership interest in a property. The “remainderman” will acquire full title to a property when a life estate ends. (2) In eminent domain cases, remainder is used to refer to the property that remains after a partial taking.

Remaining Economic Life (REL)—As of the appraisal date, the number of years in the future over which the operation of an asset is anticipated to be economically feasible; often expressed as a percentage of the total economic life (REL %).

Remediation—The act or process of eliminating environmental contamination on, in, or under property, to restore the property to an uncontaminated state.

Remodel—To improve a structure by changing its floor plan, functions, or characteristics.

Remote Sensing—Collecting information about an object without being in physical contact with the object.

Rendition—A term occasionally used synonymously with declaration.

Rent, Economic—(1) In appraisal, the annual rent that is justified for the property on the basis of a careful study of comparable properties in the area; market rent. (2) In economics, the payment received by an owner of something being bought or rented in excess of the minimum amount for which he or she would have sold or rented it.

Rent, Gross—The total amount received by a lessor from a lessee, without deduction for taxes, maintenance, or any other payments made by the lessor on account of the leased property. *Contrast rent, net.*

Rent, Ground—The rent paid for the right of use and occupancy of a parcel of unimproved land, or that portion of the rent paid for the right of use and occupancy of a parcel of improved land that is imputed to the land as distinguished from the improvements. *Compare* **rent, economic**. *See* **lease, ground**.

Rent, Net—The amount remaining to the lessor out of gross rents after deducting taxes on the property, insurance, repairs, expenses of management, and any other operating and maintenance expenses payable by him or her on account of the leased property. Note: Net rent is arrived at before deduction of depreciation expenses, interest on the lessor's investment in the property, and income taxes payable by the lessor.

Rentable Area—A specified unit area of leasable space.

Repeat Sales Analysis Model—Aggregates changes in value and statistical means for properties sold more than once during a specified period of time in a given geographic area. For example, in a zip or postal code area, estimate market-level housing price changes. If an individual property has not been substantially changed since its last sale, this analysis matches each pair of sales transactions (thus the name “repeat sales”). The amount of appreciation (or depreciation) is calculated from the time of the first sale to the second and so on, providing an estimate of the overall appreciation of that local housing market during that time period. The larger the number of available sales pairs, the more statistically reliable the estimate of overall housing price trends will be. Because this analysis is based on identifying properties where more than one sale has occurred, the challenge is to identify enough observations to provide a meaningful index of housing values, while keeping to as small a geographic area as possible. A repeat sales index may also overestimate market appreciation if the data contains pairs of sales in which the second sales price reflects substantial improvements (or other alterations) made to the property after the first sale. On the other hand, repeat sales indices can and do provide very useful valuation estimates in jurisdictions where the data is insufficient to support hedonic models. In addition, they may prove to be more accurate in tracking housing values for the houses that a hedonic model may struggle with (especially those subject to extreme positive or negative influences) when a prior sale is known on the property.

Replacement Cost; Replacement Cost New (RCN)—The cost, including material, labor, and overhead, that would be incurred in constructing an improvement having the same utility to its owner as a subject improvement, without necessarily reproducing exactly any particular characteristics of the subject. The replacement cost concept implicitly eliminates all functional obsolescence from the value given; thus only physical depreciation and economic obsolescence need to be subtracted to obtain replacement cost new less depreciation (RCNLD).

Replacement Cost New Less Depreciation (RCNLD)—In the cost approach, replacement cost new less physical incurable depreciation.

Replacement Reserve—An allowance in an annual operating statement for replacement of short-lived items that will not last for the remaining economic life of a property.

Report—Any communication, written or oral, of an appraisal, review, or consulting service that is transmitted to the client upon completion of an assignment.

Representative Sample—A sample of observations from a larger population of observations, such that statistics calculated from the sample can be expected to represent the characteristics of the population being studied.

Reproduction Cost; Reproduction Cost New (RCM)—The cost of constructing a new property, reasonably identical (having the same characteristics) with the given property except for the absence of physical depreciation, using the same materials, construction standards, design, and quality of workmanship, computed on the basis of prevailing prices and on the assumption of normal competency and normal conditions.

Repurchase Agreement—A short-term financing arrangement whereby those needing funds sell securities but agree to repurchase them at a fixed price at a specified time.

Required Rate of Return on Equity—A component of the discount rate, as it is understood from the point of view of band-of-investment analysis, and a component of the overall rate developed according to mortgage-equity analysis.

RES—See **Residential Evaluation Specialist**.

Resale Factor—The percentage of reproduction cost new added in estimating the value of a property to cover carrying charges during construction and other costs and profits of a person who manages property being prepared for occupancy, provided such items are not included in reproduction cost.

Reserve, Valuation—An account to which is credited the amount of depreciation expenses, anticipated losses on bad debts, and other charges representing a downward revaluation of assets that are carried on the books at a figure making no allowance for such revaluation. Note: Valuation reserves are sometimes carried on the liabilities side of the balance sheet. Good accounting procedure, however, requires that they be carried on the assets side of the balance sheet directly after the assets to which they pertain, and that their amounts be deducted from gross book values in arriving at total sales.

Reserve Requirement—The amount, expressed as a percentage of deposits, a commercial bank that is a member of the Federal Reserve System must keep on deposit in the Federal Reserve Bank of its region.

Residence—(1) A domicile. (2) A domicile at which a person is actually dwelling. (3) A dwelling place, whether or not it constitutes a domicile (preferred). Note: Ordinarily, in the law of taxation, “residence” means “domicile” unless a contrary meaning is specified or is indicated by the context.

Residential (nonfarm) Multifamily—See **Property**.

Residential (nonfarm) Single Family—See **Property**.

Residential Evaluation Specialist (RES)—A professional designation conferred by the International Association of Assessing Officers.

Residential Property—Real property that might be vacant land or an improved parcel of land devoted to or available for residential use. See **property use category**.

Residual—The difference between an observed value and a predicted value for a dependent variable.

Residual Technique—A method of arriving at the unknown value of a property component by subtracting the known values of other components from a known overall value.

Residual Value—The value of the property after cleanup of environmental contamination. This may be more or less than the original value depending on counterbalancing effects of stigma and improvements to plant efficiency.

Residual Value of Improvements—A value ascribed to improvements on a parcel of land by deducting from the total value of land and improvements (as determined by composite appraisal) the value of the land alone (as determined by comparison with other parcels). *Contrast residual value of land.* Note: A residual value of improvements is usually estimated only when the land is obviously not improved to its highest and best use.

Residual Value of Land—A value ascribed to land alone by deducting from the total value of land and improvements (as determined by composite appraisal) the value of the improvements (as determined by the depreciated reproduction cost method). *Contrast residual value of improvements.*

Resolution—A measure of the finest detail distinguishable in an image. Resolution usually varies from point to point of an image, so an average value (area-weighted average resolution) is often used as the resolution of the entire image.

Resolution, Ground—The size, in length or area, of the smallest pattern or region on the ground that can be distinguished on an image.

Restricted-Use Value— See **use value**.

Restriction—A described limitation on use of a property.

Revaluation—A reappraisal of property; especially a complete reappraisal of real property after assessment for one or more years on valuations most (or all) of which were established in some prior year. *Compare reassessment and reappraisal.*

Revenue—The gross dollars received for materials furnished or services rendered. Operating revenue means revenue from the operations of the primary business, for example, electric revenues of an electric utility.

Reversion—The right of possession commencing on the termination of a particular estate.

Reversion Factor—See **present worth of 1**.

Review—(1) Consideration by a board of appeals, a board of equalization, a board of review, or a court, of individual, property class, or district assessments, whether for the purpose of adding omitted taxable property, removing exempt property, or equalizing the valuations placed on listed property. *Compare* **equalization**. (2) The act or process of critically studying a report, such as an appraisal, prepared by another.

Review, Administrative—Review by any body that is not part of the organized judiciary.

Review, Judicial—Review by a body that is part of the organized judiciary.

Right, Air—A right to use and occupy the space lying above a stated elevation or within certain distances above the ground surface, in conjunction with specified spaces on the surface for the support of foundations; for example, the rights granted by railroads to build above their right-of-ways.

Right, Littoral—Any right attaching to a parcel of land that appertains to standing water bordering on such parcel. *Compare* **right, riparian**.

Right, Riparian—Any right attaching to a parcel of land that appertains to running water bordering on or flowing over such parcel; for example, the right to natural flow unobstructed by artificial checks or barriers, to freedom from unreasonable pollution, of access to the water, of accretion. *Compare* **right, littoral; right, water**.

Right, Water—The right to a supply of water.

Right-of-Way—(1) An easement consisting of a right of passage through the servient estate (preferred). (2) By extension, the strip of land traversed by a railroad or public utility, whether owned by the railroad or utility company or used under easement agreement.

Rights, Property—See **bundle of rights**.

Rod—A land measure of 16+ feet or twenty-five links. Also called a “pole.”

Roll, Assessment—See **assessment roll**.

Roll, Tax—See **tax roll**.

Root Mean Square (RMS)—The square root of the average value of the sum of the squares of the differences between values in a set and the corresponding values that have been accepted as correct or standard. Used to measure map accuracy.

Royalty—(1) A payment made periodically or at irregular intervals to the owner of a patent or copyright for the privilege of reproducing or using a patented or copyrighted article. (2) A payment made periodically or at irregular intervals to the owner of an interest in mineral land for the privilege of exploring for, and/or mining and disposing of, mineral deposits.

Rule—See **Baltimore rule**, **Harper rule**, and so on.

Russell-NCREIF Index—A performance measure for institutional real estate, maintained by the National Council of Real Estate Investment Fiduciaries Research Institute.

S

Sale, Arm's-Length—A sale in the open market between two unrelated parties, each of whom is reasonably knowledgeable of market conditions and under no undue pressure to buy or sell.

Sale, Conditional—A sale, especially of chattels, in which the transfer of title is made to depend on the performance of a condition subsequent to the making of the sales contract and delivery of goods. Note: The most common condition is that the remainder of the purchase price be paid. Property held under a conditional sales contract may be repossessed without foreclosure proceeding, and the former holder has no equity of redemption. *Compare mortgage, chattel.*

Sale, Distress—A sale made to meet the immediate and pressing needs of the seller at whatever price the property will bring.

Sale, Forced—A sale made pursuant to law; usually an auction sale that is involuntary on the part of the owner.

Sale, Normal—A sale in which neither the buyer nor the seller acts under legal or economic compulsion, in which both parties are reasonably well informed, and in which both are primarily actuated by economic motives. *Compare value, market and sale, arm's-length.*

Sale-Leaseback—A sale and subsequent lease given by the buyer back to the seller as part of the same transaction.

Sale of Convenience—A sale designed to correct defects in a title, create a joint or common tenancy, or serve some similar purpose. Such sales generally are transacted at only a nominal price.

Sale Price—See **price, sale; price, adjusted sale**.

Sale Price-Assessment Ratio—The reciprocal of the assessment-sale price ratio.

Sale Terms—The amount of down payment, the interest on the mortgage, and information on points and other fees involved in a real estate sale. Also called “terms of financing” or “financing terms.”

Sales Chasing—Sales chasing is the practice of using the sale of a property to trigger a reappraisal of that property at or near the selling price. If sales with such appraisal adjustments are used in a ratio study, the practice causes invalid uniformity results and causes invalid appraisal level results, unless similar unsold parcels are reappraised by a method that produces an appraisal level for unsold properties equal to the appraisal level of sold properties. (2) By extension, any practice that causes the analyzed sample to misrepresent the assessment performance for the entire population as a result of acts by the assessor’s office. A subtle, possibly inadvertent, variety of sales chasing occurs when the recorded property characteristics of sold properties are differentially changed relative to unsold properties. Then the application of a uniform valuation model to all properties results in the recently sold properties being more accurately appraised than the unsold ones.

Sales Comparison Approach—One of three approaches to value, the sales comparison approach estimates a property’s value (or some other characteristic, such as its depreciation) by reference to comparable sales.

Sales Data—(1) Information about the nature of the transaction, the sale price, and the characteristics of a property as of the date of sale. (2) The elements of information needed from each property for some purpose, such as appraising properties by the direct sales comparison approach.

Sales File—A file of sales data.

Sales Ratio/Assessment Ratio—The ratio of an appraised (or assessed) value to the sale price or adjusted sale price of a property. See **assessment-sale price ratio**.

Sales Ratio Study—A ratio study that uses sale prices as proxies for market values.

Salvage Value—See **value, salvage**.

Sample—A set of observations selected from a population. If the sample was randomly selected, basic concepts of probability may be applied.

Sampling Error—The error reflected in ratio study statistics that results solely from the fact that a sample of the population is used rather than a census of the population.

Sandwich Lease—See **lease, sandwich**.

Scale—The reduction ratio that characterizes a particular map. A ratio of 1: 100, for example, is said to be a larger scale than 1: 1,000.

Scanner—(1) An optical-mechanical imaging system in which a rotating or oscillating mirror sweeps the instantaneous field of view of the detector across the terrain. (2) A device for capturing and digitally encoding images in computer files.

Scatter Diagram or Scatterplot—A graphic means of depicting the relationship or correlation between two variables by plotting one variable on the horizontal axis and one variable on the vertical axis. Often in ratio studies it is informative to determine how ratios are related to other variables. A variable of interest is plotted on the horizontal axis, and ratios are plotted on the vertical axis.

Scene—The area on the ground that is covered by an image or photograph.

Schedule, Building Classification—See **building classification schedule**.

Schedule, Building Cost—See **building cost schedule**.

Schedules—Tables, equations, or some other means of presenting the relationship between the values of two or more variables that are functionally related. For example, cost schedules present the relationship between cost per square foot and living area for a number of quality classes, building heights, and other characteristics.

Scrap Value—See **value, scrap**.

Secondary Mortgage Market—A market in which the originator of a mortgage, such as a local savings bank, may sell it to another investor, such as a pension fund.

Section—A unit of land approximately one mile square and normally containing 640 acres, as laid out by the government survey.

Sensor—Any device that gathers energy (electromagnetic radiation [EMR] or other), converts it into a signal, and presents it in a form suitable for obtaining information about the environment.

Separated Rights—Rights to property that have been separated by deed, such as air, mineral, water, and leasehold rights.

Separation of Sources—The act of allocating a particular subject of taxation to some one or more, but not all, of the several levels of government within whose jurisdiction the subject lies.

Service Life—The period of time (or service) for an asset from the date of its installation to the date of its retirement from service.

Settlor—One who transfers to a trustee title to property that constitutes the trust estate. *Contrast trustee; cestui que trust.*

Short Run—A planning period so short that a firm is unable to vary the quantities of some of the resources that it uses.

Short-Lived Items—Items of a structure that have a shorter life than the basic structure. For example, roofing, water heaters, floor covering, and interior finish.

Signature—(1) Personalized evidence indicating authentication of the work performed by the appraiser and the acceptance of the responsibility for content, analyses, and conclusions in the report. (2) A characteristic, or combination of characteristics, by which a material or object may be identified on an image or photograph.

Significance—A measure of the probability that an event is attributable to a relationship rather than merely the result of chance.

Single-Property Appraisal—Systematic appraisal of properties one at a time.

Sinking Fund—A real or accounting fund or pool of money into which deposits are periodically made; these deposits, together with the compound interest they earn, are projected to accumulate to a given amount on a given date. Some sinking funds are dedicated to a particular purpose, such as replacing a heating system; others are simply convenient ways of thinking about flows of money.

Sinking-Fund Factor—The amount that must be periodically set aside to accumulate with compound interest to \$1 at the end of a specified number of years and at a specified interest rate. The sinking-fund factor is sometimes known (in connection with annuity capitalization) as the capital recovery rate.

Sinking-Fund Method—A way of calculating the recapture rate in the income approach. It assumes that an investor will deposit recapture income in an interest-bearing account and will thus, in effect, accelerate recapture. To use it, an appraiser goes to a compound interest table to locate the interest rate the investor would probably get and looks down the column of sinking-fund factors to the number of years equal to remaining economic life of the improvements. Adding that sinking-fund factor to the discount rate gives the recapture rate.

Sinking-Fund Method-Annuity Premise—Assumes that the interest rate on a sinking fund is equal to the investor's discount rate.

Site—The location of a person, thing, or event.

Site Amenities—The specific location-related positive attributes of a property: topography, utilities, street traffic, view, and so on.

Site Analysis—A study that determines the suitability of a specific parcel of land for a specific purpose.

Site Characteristics—(1) Characteristics of (and data that describe) a particular property, especially land size, shape, topography, drainage, and so on, as opposed to location and external economic forces. (2) By extension, any characteristics of either the site or the improvement.

Site Development—Improvements made to a land site (for example, grading, utility installation, roadways, and curbs) before a building is constructed.

Situs—The actual or assumed location of a property for purposes of taxation. In personal property, situs may be the physical location of the property or, in the instance of highly mobile property, the more-or-less permanent location of the property owner.

Situs, Business—The place at which intangible property is given a legal tax situs by reason of its association with a localized business.

Situs, Constructive—The tax situs established by reasonable rules of law or practice for intangible property, or for tangibles when they are not continuously within a given tax district for the full assessment year. For example, a constructive situs is established for freight cars by allocating to a tax district a fraction of the total number of cars owned equal to the ratio of car miles operated within the district to the total number of car miles operated within and without the district.

Situs, Tax—The place at which property is legally taxable, that is, the jurisdiction within which property actually lies or is said to lie for tax purposes.

Skewed—The quality of a frequency distribution that makes it asymmetrical. Distributions with longer tails on the right than on the left are said to be skewed to the right or to be positively skewed; distributions with longer tails to the left are said to be skewed to the left or to be negatively skewed.

Slope—The change in the dependent variable associated with a change of one in the independent variable of interest. The slope is given by the coefficient of the independent variable.

Software—(1) Computer programs. (2) Those parts of a computer system that are not machinery or circuits; thus procedures and possibly documentation are included along with programs.

Sole Proprietorship—A business enterprise net worth that belongs entirely to one individual.

Somers System—A system of standardized assessment developed by the late William A. Somers and first used by him in the 1896 reassessment of St. Paul, Minnesota.

Sonar—An apparatus that detects the presence of, or determines the distance or direction of, an object underwater by receiving and interpreting sound from the object.

Spatial—Refers to the location of, proximity to, or orientation of objects with respect to one another in N-dimensional space. Generally refers to phenomena that can be mapped in two or three dimensions on or near the earth's surface.

Spatial Resolution—(1) The ability of an entire remote sensor system, including lens, antennas, display, exposure, processing, and other factors, to render a sharply defined image. (2) A measure of the smallest angular or linear separation between two objects that can be resolved by the sensor.

Spearman Rank Test—A standard nonparametric test useful in examining assessment bias, among other things. It is based on the correlation of two sets of ranks.

Special Benefits—Any benefits that remain with a property after partial taking by eminent domain.

Specific Property Tax Rate Limits—A form of tax and expenditure limitation, applicable to specific types of local government or specific functions in the state, in which an upper limit is placed on either the property tax rate or the rate of increase in the property tax rate.

Specifications—A written, detailed, drawing that shows a contractor how to proceed with construction.

Spectral Band—An interval in the electromagnetic spectrum defined by two wavelengths or frequencies.

Spectral Reflectance—The reflectance of electromagnetic energy at specified wavelength intervals.

Spectral Resolution—The dimension and number of specific wavelength intervals in the electromagnetic spectrum to which a sensor is sensitive.

Spheroid—(1) Any surface differing only slightly from a sphere. (2) By extension, a surface close to the geoid or approximating the geoid.

Split—See **property split**.

Square Foot—A unit of area equal to a square one foot in length on each side.

Standard Building—See **building, standard**.

Standard Deviation—The statistic calculated from a set of numbers by subtracting the mean from each value and squaring the remainders, adding together all the squares, dividing by the size of the sample less one, and taking the square root of the result. When the data are normally distributed, one can calculate the percentage of observations within any number of standard deviations of the mean from normal probability tables. When the data are not normally distributed, the standard deviation is less meaningful, and one should proceed cautiously.

Standard Error—A measure of the precision of a measure of central tendency; the smaller the standard error, the more reliable the measure of central tendency. Standard errors are used in calculating a confidence interval about the arithmetic mean and the weighted mean.

Standard Error of the Estimate (SEE)—An expression for the standard deviation of the observed values about the regression line; thus it provides an estimate of the variation likely to be encountered in making predictions from the regression equation.

Standard Lot—See **lot, standard**.

Standard 6—See *Uniform Standards of Professional Appraisal Practice*.

Standardize—(1) To transform a variable to standard form; that is, to make the mean of the frequency distribution equal to zero and the standard deviation equal to one. (2) To adjust, for appraisal purposes, reported data such as income and expenses, so as to remove the effects of non-real estate factors, such as abnormally good or bad management, weather, and the like. The more common term for this adjustment process is “normalization.”

State Assessed Property—That property for which the assessed value is set by a state agency, either for taxation by the local jurisdiction affected, or for state taxation. Most often, this term applies to utility property or property with special characteristics where the state preempts local authority to achieve uniformity in assessments.

State Plane Coordinates—Geographic coordinates based on the state plane coordinate system. See **coordinate system, state plane**.

State Plane Coordinate System—See **coordinate system, state plane**.

State Property Tax Tribunal—A quasi-judicial administrative review agency organized by at least one state (Michigan) to separate the state's review and appeal responsibilities from its administrative and equalization functions.

Statistical Accuracy—The closeness between the statistical estimate and the true (but unknown) population parameter value it was designed to measure. It is usually characterized in terms of error or the potential significance of error and can be decomposed into sampling error and nonsampling error components. Accuracy can be specified by the level of confidence selected for a statistical test. See **accuracy**.

Statistical Precision—A reference to how closely the survey results from a sample can reproduce the results that would be obtained from the entire population (a complete census). The amount by which a sample statistic can vary from the true population parameter is due to error. Even if all the sample data are perfectly accurate, random (sampling) error affects statistical precision (measured by the standard error or standard deviation). The dispersion of ratios in the population and the sample size have a controlling influence over the precision of any statistical estimate. When the reliability of a statistical measure is being evaluated, narrower confidence intervals have greater precision. See **precision**.

Statistics—(1) Numerical descriptions calculated from a sample, for example, the median, mean, or coefficient of dispersion. Statistics are used to estimate corresponding measures, termed parameters, for the population. (2) The science of studying numerical data systematically and of presenting the results usefully. Two main branches exist: descriptive statistics and inferential statistics.

Statute—A written law that comes from a legislative body.

Stepwise Regression Analysis—A kind of multiple regression analysis in which the independent variables enter the model, and leave it if appropriate, one by one according to their ability to improve the equation's power to predict the value of the dependent variable.

Stereoscope—An instrument that uses a stereoscopic pair of images to produce a visual effect of depth or solidity, numerical data, or topographic maps showing depth (height).

Stereoscopic Coverage—Aerial photography taken with sufficient overlap to permit complete stereoscopic observation. Sixty percent forward overlap between frames is usually recommended for adequate stereoscopic coverage.

Stereoscopic Pair—Two photographs of the same area taken from different camera stations so as to afford stereoscopic study of the overlap area. Also called “stereo pair.”

Stigma—A perception that a property continues to be contaminated even though it has been cleaned up. Stigma may affect property value.

Stock, Capital—The book value of the outstanding shares of a corporation; the capital stock represents the permanently invested capital of the corporation that cannot legally be impaired by payment of ordinary dividends. *Compare* **surplus, corporate**.

Stock, Common—Corporation stock that has a residual claim on net profits and on assets, on dissolution of the corporation, after satisfaction of the claims of all creditors and of the preferred stockholders, if any, or stock that is subordinate in any other respect to a second issue of stock by the same corporation.

Stock, Preferred—(1) In general, corporation stock that has preference in any request over the common stock. (2) Specifically, corporation stock on which a dividend must be declared at a specified rate per share before any is declared on common stock, and on which liquidation dividends must be paid to the full face value of the stock before any such dividends are paid on common stock. Note: If the preferred stock is cumulative, dividends that are passed or paid in an amount less than the specified rate per share must be paid in full before a dividend may be declared on common stock in any subsequent year; if it is noncumulative, dividends passed in whole or in part in one year need not be paid in a subsequent year before declaration of dividend on common stock. Participating preferred stock shares in any additional dividends after payment at specified rates on both preferred and common stocks.

Stock and Debt Technique—A method of appraisal in which the liabilities and equity on a company's balance sheet are valued to yield a value for the operating assets (after nonoperating properties are deducted). A substitute for the sales comparison approach when sales are insufficient, as the total value of the various interest positions (taken from stock and bond sale prices in the daily newspaper or elsewhere) when summed provides a relatively objective indication of market value.

Stock Cooperative—See **cooperative**.

Stock in Trade—Stock in trade refers to merchandise items (1) on display, (2) in easy-access storage, (3) being received, or (4) being prepared for shipment.

Straight-Line Capitalization—A means of estimating value whereby net operating income is divided by a capitalization rate composed of the discount rate, the reciprocal of remaining economic life as the recapture rate, and sometimes the effective tax rate. The method implicitly assumes that net operating income will decline by an equal dollar amount each year.

Straight-Line Method—A method of amortizing investments and other sources of cash flows so that equal amounts are attributed to each of several equal intervals of time.

Stratification—The division of a sample of observations into two or more subsets according to some criterion or set of criteria. Such a division may be made to analyze disparate property types, locations, or characteristics, for example.

Stratify—To divide, for purposes of analysis, a sample of observations into two or more subsets according to some criterion or set of criteria.

Stratum, Strata (pl.)—A class or subset that results from stratification.

Street, Main—Among two or more streets affecting the value of a lot, the one that is considered to contribute the highest unit-foot value. Synonymous with "principal street."

Street, Rear—Among two or more streets affecting the value of a lot, the one that is either parallel to the main street or that runs in the same general direction as the main street.

Street, Side—Among two or more intersecting streets affecting the value of a lot, the one that is considered to contribute the lower unit-foot value. Synonymous with “cross street.”

Structure—Any man-made improvement that rises above ground level.

Stumpage—The amount of timber “on the stump.”

Stumpage Value—The value of uncut timber.

Subclass—A group of properties within a class, smaller than the class, usually (although not necessarily) defined by stratification rather than by sampling.

Subdivision—A tract of land that has been divided into marketable building lots and such public and private ways as are required for access to those lots, and that is covered by a recorded plat.

Subjective—Having the quality of requiring judgment in arriving at an appropriate answer or value for a variable (such as the quality class of a structure). See **objective**; **qualitative variable**; **quantitative variable**.

Subjective Data—Subjective data are items for which the proper value is a matter of judgment and more difficult to verify. Examples include construction class, condition, effective year built, neighborhood desirability, and view.

Subject of Tax—(1) The persons, property, act, privilege, or other circumstance on which a tax is levied or the existence of which gives rise to tax liability. (2) The natural persons on whom the tax burden falls after shifting (not recommended). *Compare* **measure of tax**; **object of tax**.

Subject Property—The property being appraised.

Sublease—A lease in which the lessor is a lessee in a prior lease.

Subpoena Duces Tecum—A subpoena requiring the person served therewith to appear at the appointed place and before the designated tribunal with those documents or other things called for in the subpoena.

Subset—A group of properties within a sample, smaller than the sample, usually although not necessarily defined by stratification rather than by sampling.

Substitute Goods—Goods related in such a way that an increase in consumption of one decreases consumption of the other.

Substitution—The appraisal principle that states that a potential owner will pay no more for a property than the amount for which a property of like utility may be purchased; that a property's value tends to be set by the cost of acquiring an equally desirable substitute.

Succession—The passing of real property by inheritance or will.

Sum of Squared Errors—The sum of the squared deviations from the predicted values (rather than the mean value).

Sum of Squares—The result obtained by adding all the squares of the individual deviations from some given value. Usually it is the sum of the squares of the deviations of the individual values of a variable from the mean value.

Sum of the Years' Digits—The method of accounting for depreciation in which a percentage of depreciable cost is allocated to each year, which percentage is equal to the number of years of remaining economic life divided by the sum of the digits for each year in the total economic life.

Summation Approach—See **cost approach**.

Sunset Provision—A provision within a statute creating a law or agency providing for the automatic termination of that law or agency at a fixed date in the future.

Superadequacy—A feature of a property exceeding in quality or amount the corresponding feature in a typical property of the same use. Superinsulation is one example. Superadequacies fall into the larger category of functional obsolescence.

Superpositioning—The capability of overlaying, normally an aerial image and a line map, for the purpose of data collection or data maintenance.

Supplies—A type of personal property, usually treated as inventory, that is consumed as part of the process of bringing other assets to a salable condition.

Supply—The amount of a good or service that would be offered for sale at various prices during a given period.

Surplus, Corporate—(1) Broadly, the equity of the stockholders in the assets of a corporation in excess of that represented by the capital stock. (2) More narrowly, the equity of the stockholders in the assets of a corporation in excess of that represented by the capital stock, undivided profits, and reserves. (3) Sometimes erroneously used to refer to the assets that are assumed to represent such equity.

Surplus Productivity—The income from a property remaining after the costs of labor, management, and capital have been paid. This income is attributable to the land.

Surplus Value—The value of a commodity over and above the quantity of labor required to produce it.

Survey, Control—A survey that provides coordinates (horizontal or vertical) of points to which supplementary surveys are adjusted.

Survey, First-Order—A geodetic survey of the highest prescribed order of precision and accuracy.

Survey, Geodetic—A survey that takes into account the size and shape of the earth (as distinguished from a plane survey, in which the surface of the earth is considered a plane).

Survey, Government—See **government survey**.

Surveying, Plane—Surveying done under the assumption that the surface of the earth is flat.

Survivor Curve—In depreciation analysis, a method of estimating the probable service life of unit properties and the probable average service life of group properties based on past experience; indicates the percentage of the property or asset (in physical units or dollars) that survives at ages (usually in years) from zero to maximum life. See **Iowa Type Curve**.

Synoptic View—The ability to see or measure large areas at the same time and under the same conditions (that is, the overall view of a large portion of the earth's surface that can be obtained from satellite altitudes).

System—(1) Structured organization of people, theory, methods, and equipment to carry out an assigned set of tasks. (2) The property operated as an integral unit under one control, management, or operating supervision. (3) An integrated group of assets that may be related entities or may be property elements such as machinery, buildings, land, and other property used in the performance of service(s) or manufacture of product(s).

T

Table, Depth—See **depth table**.

Tangible Property; Tangibles—See **property**.

Task Force—A kind of organizational unit, usually temporary, composed of employees from different functional areas whose assignment is usually some kind of nonroutine task, such as assisting in a system development effort.

Tax—A compulsory charge levied by a government unit against the income or property of a person, natural or corporate, for the common benefit of all citizens. The term does not include specific charges made against particular persons or property for current or permanent benefits and privileges accruing only to those paying such charges, such as licenses, permits, and specific assessments.

Tax, Ad Valorem—A tax levied on a base that is measured by value. Note: This term is often used to refer only to property taxes or to general property taxes, although technically it is applicable to income taxes, ad valorem tariffs, special property taxes, and so on. *Contrast tax, specific*.

Tax, Betterment—See **assessment, special**.

Tax, Classified Property—An ad valorem property tax that, in contemplation of the law, is administered uniformly with respect to two or more classes of property, except that the effective tax rate differs by law for different classes of property either through the use of different tax rates or different fractional assessments. *Compare tax, special property*. See **classification; classified property tax system**.

Tax, Degressive—A progressive tax in which the rate increases with the size of the base but by a decreasing increment. Note: Most progressive taxes are of this character in at least the higher brackets. *Compare tax, progressive; tax, proportional; tax, regressive.*

Tax, Differential—Synonymous with the preferred term classified property tax.

Tax, Direct—A tax that is intended to have its incidence (see **tax incidence**) on the person on whom it is levied; for example, a poll tax, an income tax, and usually a property tax. *Contrast tax, indirect.*

Tax, Elasticity—See **elasticity**.

Tax, General Property—(1) Originally, an ad valorem property tax that, in contemplation of law, was administered uniformly with respect to all tangible and intangible property (with the exception of a few classes specifically exempt) and that involved a uniform rate throughout each tax district. (2) Currently, the remnants of such a tax after its continued curtailment through classification, exemptions, use-value assessment laws, and special property tax laws applicable to various types of personal property. *Compare tax, special property; tax, classified property.*

Tax, Graduated—A progressive tax in which certain brackets of wealth or income (or of whatever else constitutes the tax base) are established, with a fixed or proportional tax within each bracket.

Tax, Indirect—A tax that is intended to have its incidence on some person other than the one on whom it is levied, for example, an import duty, a sales tax. *Contrast tax, direct.*

Tax, Land Value—An ad valorem property tax measured by the value of land exclusive of any improvements thereon. *Compare tax, single.*

Tax, Net Worth—An ad valorem property tax based on the difference between the total assets and total liabilities of the taxpayer. Note: This is a tax that is used in a number of countries but not in the United States.

Tax, Progressive—(1) A tax in which the effective rate is higher for a taxpayer subject to taxation on a large tax base than for a taxpayer subject to taxation on a small tax base. (2) Loosely used to refer to any tax that absorbs a larger proportion of the wealth or income of the well-to-do classes than of the poorer classes. *Contrast tax, proportional; tax, special property; tax, graduated.*

Tax, Property—Any tax that is imposed on persons on account of their ownership or possession of property and is measured by the number of units, the value, or some presumptive evidence of number of units or value, of such property. Note: This tax is generally, but not necessarily, intended to be a direct, proportional ad valorem tax. *Compare tax, general property; tax, special property; tax, classified property.*

Tax, Proportional—A tax in which the effective tax rate is the same for all taxpayers regardless of the sizes of the tax bases on which they are subject to taxation. *Contrast tax, progressive; tax, regressive.*

Tax, Recording—A property tax, generally nonrecurring, paid on recording with a designated public officer or body particular types of intangible property, such property usually being specifically exempt from the general property tax or exempt by reason of such recordation. Synonymous with “recordation tax.”

Tax, Regressive—(1) A tax in which the effective rate is higher for a taxpayer subject to taxation on a small tax base than for a taxpayer subject to taxation on a large tax base. (2) Loosely used to refer to any tax that absorbs a smaller proportion of the wealth or income of the well-to-do classes than of the poorer classes. Note: A tax is said to be regressive in administration, though not legally regressive, when the ratio of the actual base to the statutory base declines as the statutory base increases, in such manner as to nullify a proportional statutory rate or to make a progressive statutory rate actually regressive. The same usage is conversely applicable to the terms “progressive tax” and “proportional tax,” but is less commonly associated with them. *Contrast tax, progressive; tax, proportional.*

Tax, Severance—A tax imposed on the privilege or act of removing or severing specified natural resources, such as minerals or timber, from a state of nature. Note: Such a tax may be measured by gross or net proceeds or by units of production, and may be in lieu of, or in addition to, a property tax on the severed or remaining natural resources. *Compare tax, yield.*

Tax, Single—(1) In general, any tax that is intended to serve the fiscal needs of a sovereign government and its political subdivisions without being supplemented by other tax revenues. (2) Specifically, the tax exclusively on land espoused by Henry George and his disciples.

Tax, Special—(1) In general, an unusual, extraordinary, or unique tax. (2) Specifically, as applied to property taxes, (a) a property tax that is levied subsequent to the levying of the regular annual property tax; (b) a property tax levied for a single purpose rather than for the general purposes of government. (Not to be confused with specific tax or special property tax.)

Tax, Special Property—A property tax that applies to a single class of property (for example, oil and gas properties, motor vehicles) and differs substantially in one or more respects from the general property tax. Note: Such difference may be in the base of the tax (for example, it may consist of gross earnings instead of property values), in the rate, or in important administrative aspects. *Compare tax, general property; tax, classified property.*

Tax, Specific—(1) A tax in which the base is a physical, rather than a value unit, for example, a head tax, a gallonage tax. (2) Sometimes (for example, in Michigan) incorrectly used to mean a special property tax. *Contrast tax, ad valorem.*

Tax, Transfer—The tax payable to a state (and sometimes to a locality) upon the sale of real property and the recordation of the transfer. The payment is usually proportional to the sale price and is commonly used by appraisers in the absence of more accurate information to deduce the price for which the property sold.

Tax, Value Increment—A tax on increases in value of property between two specific dates, accruing either periodically or at the time property is transferred. Note: This tax is currently found in the capital gains features of many income tax laws, but is generally thought of as a land tax on the unearned increment. See **increment, unearned**.

Tax, Windfall—An unexpected, unbudgeted increase in the proceeds of a tax.

Tax, Yield—A tax based on gross income from all or specified sources accruing to the owner of a property by reason of such ownership; generally applied to forestlands in lieu of property taxes on the timber or on the land and timber. *Compare* **tax, severance**.

Tax and Expenditure Limitations (TEs)—Statutory and constitutional limitations imposed by states on local fiscal autonomy. TEs are designed ostensibly to (1) control and reduce property taxes, (2) control the growth of government and public spending, and (3) improve fiscal accountability. The six basic types of TEL are overall property tax rate limits, specific property tax rate limits, property tax levy limits, limits on general revenue or expenditure increases, limits on assessment increases, and truth-in-taxation (full disclosure) requirements. By the beginning of 1995, forty-six states had enacted TEs.

Tax Assessed Value Model—Derive an estimate of value by examining market values attributed to properties by the local taxing authorities. As a matter of local law and custom, the values reported by the taxing authorities often (but not always) vary from the current market value in some reasonably predictable manner. For example, some jurisdictions require the taxing authority to report the value at 25 percent of estimated market value. In others, values are reassessed only on an infrequent basis. Some jurisdictions report multiple values—assessed, appraised and market values. By examining local laws and customs with respect to how that value is derived, it is often possible to provide a general adjustment to values reported by taxing authorities to better approximate current market value.

Tax Base—The aggregate of the values or units to which the tax rate or rates are applied to determine the tax liability of a person or a group of persons, for example, \$10,000 worth of property, \$2,500 of income. *Compare* **measure of tax**; **object of tax**; **subject of tax**.

Tax Base, Property—The total of all the assessed values in a given community.

Tax Burden—Economic costs or losses resulting from the imposition of a tax. Burden can be determined only by detailed economic analysis of all economic changes resulting from the tax. In popular usage, the term often refers to the initial incidence rather than to ultimate economic costs.

Tax Calendar, Property—A calendar of the assessment year that lists important dates in the property tax system.

Tax District—(1) In general, a state or any political subdivision thereof having or exercising the power to levy taxes. (2) As applied to property taxes, any area, whether coterminous with or within a state or a political subdivision thereof, within which the tax rate levied by such state or political subdivision is required by law to be uniform on properties of the same class.

Tax Incidence—The distribution of a tax on natural persons who bear the tax after the completion of the process of tax shifting, to be distinguished in particular from the distribution of the tax on the persons, natural or legal, who pay it in the first instance.

Tax Incidence Analysis—Economic analysis that compares the way different taxes affect the distribution of income; requires analysis of the impact of taxes on the market for the taxed item and the market for all factors (land, labor, and capital) used in producing the taxed item.

Tax Increment Bonds—Debt instruments that governments may issue to allow them to pay for projects in a reinvestment zone. Tax revenues pay off the bonds.

Tax Increment Finance (TIF)—The idea that property taxes, or other revenue, resulting from the increase in a tax base (for example, property values or retail sales) in a specific area can be used to repay the costs of investment in that area. Funds may be invested in various programs, such as public infrastructure improvements or land writedown subsidies to private investors. See **enterprise zone**.

Tax Levy—(1) The act by which a legislative body fixes either the amount of taxes to be placed in collection or the rate to be applied to a predefined tax base. (2) The amount of taxes authorized to be placed in collection by a competent legislative body.

Tax Policy Analysis—The process of gathering and interpreting economic data to provide information that can be used by policy-makers to formulate tax policy.

Tax Rate—(1) The amount of tax stated in terms of a unit of the tax base, for example, 30 mills per dollar, 2 percent, 2 cents per gallon. (2) For the property tax, the percentage of assessed value at which each property is taxed in a given district. Distinguish between effective tax rate and nominal tax rate.

Tax Roll—An official list showing the amount of taxes charged against each taxpayer and/or each property within the jurisdiction of a tax district. Note: In property taxation, the tax roll is sometimes combined with the assessment roll into a single document.

Tax Rollback—A tax rollback results in assessment of back taxes on land that was previously taxed according to special-use value. When land no longer qualifies for use valuation, the taxing unit assesses taxes for a number of years as specified by statute. The additional tax is the difference between the amount of tax imposed and the amount that would have been imposed if the land had been appraised at (and taxed on the basis of) full market value.

Tax Sale—Sale of a taxpayer's property by a public authority so that delinquent taxes may be collected from the proceeds; usually preceded by a period during which the taxpayer can pay delinquent taxes, and followed by a period during which the taxpayer can redeem the property from the purchaser. See **certificate of redemption; redemption**.

Tax Shifting—The act of a taxpayer in transferring a tax to another person by means of price changes. Note: A tax is said to be fully shifted when it results in price changes that maintain the taxpayer's net income at the level that would obtain in the absence of the tax. So long as price changes occur that forestall the reduction of net income by the full amount of the tax payment, some shifting has occurred. Shifting may be forward, as in the case of a tax on a retail concern that is shifted by increasing the retail price, or backward, as when such a tax is shifted by a reduction in the wages of employees or in wholesale prices.

Tax Warrant—The tax collector may ask a court to issue a document called a tax warrant directing a peace officer and tax collector to take as much of a person's personal property as is necessary to pay all taxes, penalties, and interest the person owes.

Taxable Value—Taxable value is the appraised value minus all applicable partial exemptions. Property taxes are levied on taxable value.

Taxation, Double—In general, the subjection of the same income or source of income, or both the income and its source, to taxation by the same governmental unit, or by coordinate governmental units, twice in the same tax period. Note: The courts generally recognize the existence of double taxation when a single object is taxed by the same governmental unit, or by coordinate governmental units, twice in the same tax period. Economists further recognize double taxation when both wealth and representative intangible property are taxed; when both property and property income are taxed; and when income is taxed to a corporation and subsequently to the stockholder upon distribution as dividends. Double taxation is not necessarily undesirable or illegal; it is only when it is discriminatory that it is to be condemned.

Tax-Exempt Property—Property entirely excluded from taxation because of its type or use. The most common examples are religious, charitable, educational, or governmental properties. This definition omits property for which the application of a partial exemption reduces net taxable value to zero.

Taxing Unit—Any political unit of a state that imposes property taxes. Counties, school districts, incorporated municipalities (cities), and special districts may be taxing units. See **tax district**.

Taxpayer—(1) A person who pays a tax in the first instance, whether he or she finally bears the burden or shifts it; generally defined in law to include all persons liable for payment of a tax whether or not they actually pay it. (2) Figuratively used to mean a more or less temporary improvement that produces enough in earnings to cover taxes and perhaps some of the other carrying charges on the land. (Term should be placed in quotation marks when used in the latter sense.)

TEs—See **tax and expenditure limitations**.

Tenacy—The act of using or occupying property, especially real property whose fee title is vested in someone other than the occupant.

Tenacy, Joint—A state of tenancy involving two or more persons owning undivided possessory interests which have arisen out of a single conveyance, no one of the tenants being free to create interests in the estate without the consent of the others, and the surviving tenants acquiring the interest of any tenant who may die. *Compare* **tenancy in common; tenancy by the entirety**.

Tenacy by the Entirety—A state of tenancy, recognized by some states, in which the husband and wife are considered as a single person, neither one being free to create interests in the estate without the consent of the other and the survivor acquiring the whole interest upon the death of either. *Compare* **tenancy, joint**.

Tenacy in Common—A state of tenancy involving two or more persons owning undivided possessory interests that have arisen out of separate and distinct conveyances, any one of the tenants being free to create interest in his portion of the estate and the heirs or devisees acquiring the interest of any tenant who may die. *Compare* **tenancy, joint; tenancy by the entirety**.

Tenacy in Severalty—A state of tenancy involving one person who owns a divided possessory interest.

Tenant—One who holds or possesses a property.

Tenement—(1) Real property and the rights to ownership, especially those of a permanent nature that relate to and pass with the land. (2) A building intended for rental residence.

Terminal—The on-line device used to communicate with a computer.

Testate—The state of having died after executing a valid last will and testament.

Thermal Infrared—Electromagnetic radiation emitted by any substance as a consequence of the thermal excitation of its molecules. Thermal radiation ranges in wavelength from the longest infrared radiation to the shortest ultraviolet radiation.

Theodolite—A precision surveying instrument for measuring horizontal and vertical angles. The graduated circles are usually read by means of optical microscopes and are more precisely graduated than are the circles on a transit.

Three Approaches to Value—A convenient way to group the various methods of appraising a property. The cost approach encompasses several methods for estimating replacement cost new of an improvement less depreciation plus land value. The sales comparison approach estimates values by comparison with similar properties for which sale prices are known. The methods included in the income approach are based on the assumption that value equals the present worth of the rights to future income.

Tier—The area included between two township lines.

TIGER File—Topographically Integrated Geographic Encoding and Referencing data file. A location (address) file developed within the Bureau of the Census.

Tilt—(1) The space (dihedral) angle between the plane of the photograph and the horizontal plane. (2) The angle between the photograph perpendicular and the plumbline, measured at the perspective center.

Time Series Analysis—A family of techniques that can be used to measure the cyclical movements, random variations, seasonal variations, and secular trends observed over a period of time.

Time Value of Money—The principle that an amount of money anticipated as income in the future is always worth less than an equal amount in hand at the present time.

Time-Adjusted Sale Price—The price at which a property sold, adjusted for the effects of price changes reflected in the market between the date of sale and the date of analysis.

Time-Share Unit—A residence, usually a condominium at a vacation or resort site, whose ownership is divided among the owners by weeks or months, giving each owner the right to occupancy for a specified time each year.

Title—The union of all elements constituting proof of property ownership or the instrument that is evidence of ownership.

Title Search—An examination of public records to ensure the quality of the seller's title to a property. Preparation of an abstract of title requires a complete title search, as does preparation to foreclose on a property in a delinquent tax suit.

Tolerance—An acceptable margin of error or inaccuracy.

Topographic Map—Refers to the basic description and elevation of a piece of land.

Topography—The contour of land surface, for example, gently rolling, mountainous, or flat.

Torrens System—A land registration system in which ownership interests in real property are established and transferred pursuant to a governmental registration and certification process rather than by, for example, deed or will.

Total Economic Life—The period of time or units of production over which the operation of an asset is economically feasible, not necessarily the same as its physical life.

Total Station—A fully automated surveying device that measures both distances and horizontal and vertical angles, recording them on a magnetic device.

Town—(1) A small incorporated or unincorporated political subdivision of a state. (2) A civil township. (3) A small urban area.

Township—An approximately thirty-six-square mile division of land used in the Federal Rectangular Survey System. Townships are bounded by two successive range lines on the east and west and two successive township lines on the north and south.

Township, Civil—An unincorporated political subdivision of the state, usually coterminous with a survey township or with that portion thereof that remains after the incorporation of cities and villages situated therein.

Township, Survey—The area included between two township lines and two range lines, normally containing thirty-six sections of approximately 640 acres each. Synonymous with “Congressional township”; “geographical township.”

Township Line—One of a series of survey lines running due east and west at six-mile intervals on either side of a base line, used for locating parcels of land under government survey. See **base line**. Contrast **range line**.

Trade, Level of—Refers to the production and distribution stages of a product. Appraisers recognize three distinct levels of trade: The manufacturing level, the wholesale level, and retail level. Personal property should be assessed at the trade level at which it is found. The valuation of the inventory of one owner should be based on the price for which it would be exchanged with a similar business, at the same trade level, for example, from one manufacturer to another. Value in exchange increases as a property moves from manufacturing through retail levels of trade.

Trade Fixture—Property attached to a rented space or building by a tenant, used in conducting a business and owned by the tenant. Also called “chattel fixture.”

Trademark—A name, symbol, or other sign that identifies a product or service; officially registered and legally restricted to use by the owner alone.

Transfer Tax—See **tax, transfer**.

Transformation—The process of changing the values and definitions of one or more variables so as to make them more useful for further analyses. If market value changes with living area, for example, a valuable transformation would be to change length and width to area, and if market value does not change proportionally with area, a valuable transformation might be to use the logarithm of area.

Transit—A repeating surveying instrument for measuring horizontal and vertical angles. The graduated circles are usually not graduated as precisely as are those on a theodolite.

Transverse Mercator Coordinates—Geographic coordinates based on a transverse Mercator projection and usually expressed in meters. See **universal transverse Mercator**.

Treasury Bills—Short-term debt obligations of the United States Treasury.

Trended Original Cost—(1) The cost of constructing an improvement at a particular time, adjusted to reflect inflation and deflation, as well as changes in construction costs, between that time and the appraisal date. (2) Method of cost estimating that obtains an estimate of the reproduction cost of a structure by adjusting its original, or historical, cost with a factor from an appropriate construction cost index.

Trending—Adjusting the values of a variable for the effects of time. Usually used to refer to adjustments of assessments intended to reflect the effects of inflation and deflation and sometimes also, but not necessarily, the effects of changes in the demand for microlocational goods and services.

Trending Factor—A figure representing the increase in cost or selling price over a period of time. Trending accounts for the relative difference in the value of a dollar between two periods.

Triangular-Lot Table—A schedule of adjustments used to appraise a lot having a triangular shape (in whole or in part) by comparison with a base lot or a given unit of comparison factor, such as a front-foot rate.

Trimmed Mean—The arithmetic mean of a data set identified by the proportion of the sample that is trimmed from each end of the ordered array. For example, a 10 percent trimmed mean of a sample of size ten is the average of the eight observations remaining after the largest and smallest observations have been removed.

Trust—An agreement whereby the owner of property (the settlor) transfers legal title to a second party (the trustee), such property to be held, managed, or disposed of for the benefit of a third party (the beneficiary) or the settlor, or both, as set forth in the trust agreement.

Trust, Investment—A corporation or trust association whose assets are largely or exclusively stocks and bonds purchased for investment purposes rather than as a means of controlling the policies of other corporations.

Trust, Revocable—A trust in which the grantor of the property held in trust retains the right to repossess the legal and equitable titles. See **deed, trust**.

Trust Estate—The aggregate interests of a trustee in property of all sorts held under a trust agreement.

Trustee—One who holds legal title to property under a trust agreement. *Compare* **settlor; beneficiary**.

Truth-in-Taxation (Full Disclosure) Requirements—Legal obligations for local government officials to make taxpayers aware of assessment increases, levy increase proposals, and so on, and to give taxpayers an opportunity to participate in public hearings on the changes.

t-Statistic—A particular statistic important in inferential statistics for certain kinds of hypothesis testing of certain kinds of data.

t-Test—A particular parametric statistical test useful, among other things, in testing the level of assessment.

Turnkey—Describes a project in which the manufacturer, builder, or contractor delivers a completed product or facility; the tenant, user, or owner has only to “turn the key” to begin operations.

Turnover—A figure signifying a relationship between sales over a stated period (usually a year) and average inventories during such period, arrived at by dividing either (a) total cost of sales by total cost of the average inventory or (b) total sales receipts by total sale price of the average inventory.

Turnover Ratio—A valuation guideline based on sales activity, the number of times per period (usually a year) a business sells the average sale value of its inventory during the same period.

Two-Tailed Test—A test in which the alternative hypothesis does not specify the direction of the relationship, as opposed to a one-tailed test, in which the direction of relationship is specified. For example, the alternative hypothesis that “a does not equal b” implies a two-tailed test, whereas “a is greater than b” implies a one-tailed test. See **null hypothesis**.

Type Survivor Curves—See **survivor curve**; **Iowa type curve**.

U

Underground Storage Tank (UST)—Any tank and associated piping that has more than 10 percent of its volume underground. If leaking, these tanks are known as LUSTs.

Underimprovement—An improvement that does not develop a site to its highest and best use; usually a violation of the principle of conformity. *Contrast* **overimprovement**.

Undivided Interest—An interest in a property that is not distinct from the interest or interests of one or more other persons as to the time during which the interest is possessory or as to the portion of the property to which the interest attaches, for example, the interest of a joint tenant or a tenant in common.

Unencumbered Fund Balances—Funds or appropriations left over at the end of the budget year that are not committed to any fiscal purpose. An encumbrance is a reservation of funds in the form of purchase orders, signed contracts, salary commitments, and the like, chargeable to an appropriation.

Unencumbered Value—The value of property without consideration of any detrimental environmental contamination.

Uniform Standards of Professional Appraisal Practice—Annual publication of the Appraisal Standards Board of The Appraisal Foundation: “These Standards deal with the procedures to be followed in performing an appraisal, review or consulting service and the manner in which an appraisal, review or consulting service is communicated. . . . Standard 6 sets forth criteria for the development and reporting of mass appraisals for ad valorem tax purposes or any other universe of properties” (p. 1).

Uniformity—The equality of the burden of taxation in the method of assessment.

Unit—The property being appraised. Everything used or useful to the ongoing economic operation of the business (property). Includes tangible and intangible property.

Unit Appraisal—See **appraisal, composite**.

Unit Cost—A valuation guideline expressing the relationship between cost or value of property and some unit of measure, for example, cost per square foot or per employee.

Unit Foot—A rectangular portion of urban land with a frontage of one foot and a depth equal to that of the standard lot. Synonymous with “standard unit foot” and “standard front-foot unit.”

Unit-in-Place Method—A method of cost estimating in which all the direct and some of the indirect costs of individual construction components (such as the foundation walls) are specified in appropriate units (such as cost per unit of area, volume, or length), multiplied by an estimate of the quantity required by the particular structure, and added to obtain an estimate of the cost of the structure. *Compare* **comparative unit method** (*sense 2*); **quantity survey method**.

Unit of Comparison—A property as a whole or some smaller measure of the size of the property used in the sales comparison approach to estimate a price per unit.

Unit Value—The value of one of a number of similar items or units contained in, or making up, a property. *Compare* **unit cost**.

Unitary Method of Valuation—The unit rule is a method that values the property within a particular jurisdiction based on the fair share of the value of an operating enterprise, of which the property is an integral part. The unit value concept values all the property as a going concern without geographical or functional division of the whole and includes tangible and intangible assets. The unit rule concept is typically associated with the valuation of public utilities, telecommunications networks, railroads, and other transportation properties. However, the concept of unit valuation is similarly applicable to the appraisal of a single-family residence when comparable sales are used to value the entire property without segregation of land values. Similarly, when rents are capitalized into a value estimate for commercial properties, the unit rule is used.

United States Federal Reserve System—A United States banking system charged with responsibility for maintaining the health of the economy through its regulation of the money supply and the rate of interest.

United States Public Land Survey—The land survey authorized by the United States Congress in 1785 upon which the federal rectangular survey system is based.

United States Public Land Survey System—A rectangular land survey employed in most of the United States, based on township lines and base lines.

Universal Transverse Mercator—The transverse Mercator projection used in the United States. Universal transverse Mercator projection zones are six degrees of longitude wide and cross civil boundaries. See **Mercator projection**.

Unweighted Mean—A mean in which each value is considered only once. See **weighted mean**.

Usable Area—The area of land that can be used, or the equivalent area after allowance for irregular topography.

Use, Highest and Best—See **highest and best use**.

Use Class—(1) A grouping of properties based on their use rather than, for example, their acreage or construction. (2) One of the following classes of property: single-family residential, multifamily residential, agricultural, commercial, industrial, vacant land, and institutional/exempt. (3) Any subclass refinement of the above—for example, townhouse, detached single-family, condominium, house on farm, and so on. See **property use category**.

Use Code—A code (used on a property record form) to indicate a property's use class or, less often, potential use.

Useful Life—Estimated normal operating life in terms of utility to the owner of a fixed asset or group of assets.

Use Value—(1) The value of property in a specific use. (2) Property entirely used for a specific purpose or use that may entitle the property to be assessed at a different level than others in the jurisdiction. Examples of properties that may be assessed at use value under the statutes include agricultural land, timberland, and historical sites. *Compare value in use*.

Use-Value (Farmland) Assessment Laws—Laws that require or permit assessors to appraise and assess property as though the property were subject to an enforceable restriction that forbade putting the land (or the entire property) to any use but the present one.

Typically there is no such permanent enforceable restriction, but assessors may nevertheless be required to assess certain property types, especially agricultural land, and to a lesser extent historic properties, as though the restriction were real. In such instances, the sales comparison approach may be inapplicable, and a version of the income approach may be required.

USPAP—See *Uniform Standards of Professional Appraisal Practice*.

U-Test—See **Mann-Whitney test**.

Utility—(1) The quality of a property or service that enables it to satisfy human wants. (2) The satisfaction obtained from the goods and services that a consumer consumes.

UTM—See **universal transverse Mercator**.

V

Vacancy and Collection Loss—The amount of money deducted from potential annual gross income to reflect the effect of probable vacancy and turnover, or nonpayment of rent by tenants. Vacancy and collection loss is commonly expressed as a percentage of potential annual gross income, and it should be based on market research, not actual rental history of a property.

Vacant Platted Lots—Unimproved parcels described in terms other than acreage, usually by a convention using lot, block, and subdivision name. Vacant platted lots are often located either within a municipality or in areas of higher population density than the surrounding territory.

Validity—The quality of a data element or procedure being what it should be in terms of some ultimate purpose or use. See **integrity**. Compare **accuracy**, **precision**.

Valuation—(1) The process of estimating the value—market, investment, insured, or other properly defined value—of a specific parcel or parcels of real estate or of an item or items of personal property as of a given date. (2) The process or business of appraising, of making estimates of the value of something. The value usually required to be estimated is market value.

Valuation, Assessed—See **assessed value**.

Valuation Date—The specific date as of which assessed values are set for purposes of property taxation. This date may also be known as the “date of finality.” See **assessment date**.

Value—(1) The relationship between an object desired and a potential owner; the characteristics of scarcity, utility, desirability, and transferability must be present for value to exist. (2) Value may also be described as the present worth of future benefits arising from the ownership of real or personal property. (3) The estimate sought in a valuation. (4) Any number between positive infinity and negative infinity. See **market value**.

Value, Actual—Market value, especially as distinguished from so-called book, par, or face values.

Value, Assembly—See **assembly value**.

Value, Assessed—See **assessed value**.

Value, Base—Synonymous with the preferred term “unit-foot value.”

Value, Book—(1) The money figure at which an asset is carried on the regular books of account of the owner, after deduction of any valuation reserve carried against it. (2) The value ascribed to corporation stock by the books of account of the issuing corporation, as determined by the stated amount of the corporation’s capital, surplus, undivided profits, and reserves that can reasonably be expected to accrue to the stockholders. Note: The book value of preferred stock is generally not affected by surplus, undivided profits, and reserves.

Value, Capital—Value as estimated by the discounting process, that is, present worth.

Value, Cash—Market value in terms of cash.

Value, Constructive Market—An approximation of market value arrived at through the application of reasonable rules and procedures of appraisal, such as corner influence and depth rules, building classification and cost schedules, and physical depreciation schedules.

Value, Economic—Worth in a use, transaction, or exchange, as distinguished from ethical worth, esthetic worth, historical worth, and the like.

Value, Exchange—Synonymous with the preferred term “market value.”

Value, Face—See **face value**.

Value, Fair—(1) In taxation, market value. (2) In public utility regulation, a term inappropriately applied to the combination of costs and values that commends itself to the courts as a fair rate base.

Value, Full—Synonymous with the preferred term market value.

Value, Going—The value of an entire property in active service and with an established clientele, as distinguished from its value immediately before being put into service or upon retirement from service.

Value, Improved—A loose term generally defined as that portion of the present worth of a property that represents the resale factor. (Term not recommended for use.)

Value, Intrinsic—(1) The value of an article due to its own physical qualities rather than to the rights, privileges, or immunities with respect to other properties or persons which its possession confers. (2) A term used to designate “value” that is supposed to reside within an article rather than within the minds of its actual or would-be possessors. Note: This is a term that is much abused and that might well be discarded. Although it is proper to say that the intrinsic value of a stock certificate is the value, if any, of the paper, it is not correct to say that real estate has an intrinsic value in excess of, or less than, its market value.

Value, Investment—The present worth of an investment property. (Term not recommended for use.)

Value, Junk—Synonymous with the preferred term “scrap value.”

Value, Liquidation—The value of one or more of the assets of a business concern under conditions in which the business is discontinued and the assets disposed of either in their entirety or separately. *Contrast* **going-concern value**.

Value, Market—See **market value**.

Value, Money—Synonymous with the preferred term “cash value.”

Value, Normal—A loose term used to denote some sort of mean between high and low market prices obtaining over a period of time or in different markets at any moment of time. (Term not recommended for use.)

Value, Objective—Synonymous with “market value.” *Contrast value, subjective.*

Value, Par—*See par value.*

Value, Plottage—*See plottage value.*

Value, Reflected—The enhancement in value of a lot ascribed to its proximity to other valuable property. (Term not recommended for use.)

Value, Residual—*See residual value.*

Value, Salvage—The value which badly depreciated improvements, machines, or equipment would have if dismantled and sold in separate parts or pieces; the value of an asset at the end of its economic life. *Compare value, scrap.*

Value, Scrap—The value that the basic, recoverable materials (usually metals) of a physical property would have as junk if it were completely broken up or too badly deteriorated to serve its normal purpose; the value of an asset at the end of its physical life. *Compare value, salvage.*

Value, Sound—The value that would obtain if a property were worth its reproduction cost less physical depreciation. (Term not recommended for use.)

Value, Speculative—A loose term used to distinguish actual market prices and market values from the appraiser’s estimate of present worth. (Term not recommended for use.)

Value, Street—The unit-foot value ascribed to inside lots on a given side of the street over a given proportion of its length.

Value, Stumpage—*See stumpage value.*

Value, Subjective—The amount of money or money's worth in return for which the owner would willingly part with a piece of property, whether or not there exists a willing purchaser at such a price. Note: Subjective value may differ from market value either because the owner incorrectly estimates the market value or because the property is worth more to the owner than to others in the market.

Value, True—Synonymous with the preferred term “market value.”

Value, Unit—See **unit value**.

Value, Unit-Foot—The value per front foot of an inside standard lot.

Value in Exchange—(1) The amount an informed purchaser would offer for property under given market conditions. (2) The concept that states value is based on the ability of property to command another asset, such as money, in trade.

Value Increment—The amount by which a property has increased in value. See **increment, unearned**.

Value in Use—The value of property for a specific use. The concept that holds value to be inherent in property itself, that is, the value is based on the ability of the asset to produce revenue through ownership.

Variable—An item of observation that can assume various values, for example, square feet, sale prices, or sales ratios. Variables are commonly described using measures of central tendency and dispersion.

Variable Costs—The costs of the variable resources used by a firm in either the short run or the long run.

Variable Proportions, Law of—Also called the “law of decreasing returns,” this states that as quantities of one productive factor increase, the quantities of other productive factors remaining fixed, the resulting additional increments of product or output will decrease after a certain point.

Variable Resources—The resources used by a firm that can change in quantity in either the short run or the long run.

Variance—A measure of dispersion equal to the standard deviation squared.

Variation—(1) A general term meaning dispersion. (2) A reference to a particular statistic called the coefficient of variation.

Vendee—One who purchases. Synonymous with “buyer.”

Vendor—One who transfers property by sale. Synonymous with “seller.”

Verify—To check the accuracy of something. For example, sales data may be verified by interviewing the purchaser of the property, and data entries may be verified by check digits.

Vertical Inequity—Differences in the levels of assessment of properties related to the value ranges of the properties. That is, properties of higher value have assessment levels different from properties of lower value. See **horizontal inequity**.

Vertical Photograph—An aerial photograph taken with the axis of the camera being maintained as closely as possible to a truly vertical position, with the resulting photograph lying approximately in a horizontal plane.

W

Wasting Asset—A property or other thing of value whose value diminishes with the passage of time. For example, buildings are a wasting asset, but land and gold, traditionally, are not.

Wavelength—Wavelength equals velocity/frequency. In general, the mean distance between maxima (or minima) of a roughly periodic pattern. Specifically, the least distance between particles moving in the same phase of oscillation in a wave disturbance. Optical and infrared wavelengths are measured in nanometers, micrometers, and angstroms.

Wealth—Valuable material objects that are owned, either individually or collectively; that is, all tangible property. Note: In popular usage, the term “wealth” is synonymous with “property” and, as such, embraces intangibles as well as tangible property. This usage is considered incorrect by economists and is not recommended. Intangible property, with the possible exception of goodwill, patents, and the like, is not a real source of income, but only a means of distributing income derived from the two primary sources, tangible property and persons. The adding together of tangible property

and intangibles to secure total wealth results in multiple counting of the same values. Some authorities consider nonrepresentative intangible property as wealth, but this usage has received only limited acceptance. *Compare* **property**.

Weighted Average Method—In personal property appraisal, a method of inventory cost accounting whereby inventory is valued according to the unit price of all units owned throughout the year, calculated by dividing total acquisition cost of all inventory by the number of units owned.

Weighted Coefficient of Dispersion—The coefficient of dispersion when the absolute differences between individual assessment ratios and the measure of central tendency (for example, median ratio) are weighted on the basis of sale price.

Weighted Coefficient of Variation—The coefficient of variation when the squared differences between individual assessment ratios and the arithmetic mean ratio are weighted on the basis of sale price.

Weighted Mean; Weighted Average—An average in which each value is adjusted by a factor reflecting its relative importance in the whole before the values are summed and divided by their number.

Weighted Mean Ratio—Sum of the appraised values divided by the sum of the sale prices (or independent estimates of market value), which weights each ratio in proportion to the sale price (or independent estimate of market value).

Worth, Present—See **present worth**.

Y

Yield Capitalization—Any of several methods used in the income approach to value. Yield methods involve certain subtleties and assumptions that vary according to the particular method employed, but include estimating such factors as the required rate of return on investment, the remaining economic life of the property, an investment holding period, the income path, anticipated depreciation or appreciation, and reversionary value. The yield methods stand in contrast to direct sales analysis methods, in which a typical relationship between incomes and sale prices is found by simply dividing observed incomes by sale prices for comparable proper-

ties, the fraction thus obtained then being applied (in the form of a gross income multiplier or an overall rate) to the properties being appraised. See **building residual technique**, **discount rate**, **mortgage-equity analysis**, and **property residual technique**.

Yield Rate—(1) The return on investment applicable to a series of incomes that results in the present worth of each. Examples of yield rates are interest rate, discount rate, equity yield rate, and internal rate of return. (2) The required rate of return on equity capital; a component of the capitalization rate (or discount rate or mortgage-equity overall rate) that must be separately specified in band-of-investment analysis and mortgage equity analysis.

Yield to Maturity (YTM)—The average rate of return on outstanding debt issues taking into consideration current price, interest payments, and capital gains or losses at maturity of the issue.

Z

Zangerle Curve—A corner influence graph devised by John A. Zangerle, showing, for any given main street frontage, the percentage of the side street value to be added as corner influence to the value of the lot computed as an inside lot fronting on the main street. Compare **Bernard rule**.

Zoning—The exercise of the police power to restrict land owners as to the use of their land and/or the type, size, and location of structures to be erected thereon.

z-Statistic—The number calculated in a z-test, whose significance is evaluated by reference to a z-table.

z-Table—A table of critical values associated with the z-test.

z-Test—A test of any of a number of hypotheses in inferential statistics that has validity if sample size is sufficiently large and the underlying data are normally distributed.

Glossary



for Property Appraisal
and Assessment

Second Edition

INTERNATIONAL ASSOCIATION *of* ASSESSING OFFICERS