National Conference of Unit Valuation States

UNIT VALUATION STANDARDS

I. Preamble

The objective of these standards is to provide a systematic means by which member states can improve and standardize the operation of their offices. The standards presented herein are advisory in nature and the use of, or compliance with, such standards is purely voluntary. If any portion of these standards is found to conflict with the Uniform Standards of Professional Appraisal Practice (USPAP) or state laws, USPAP and state laws shall govern.

II. Unit Valuation

A. "Unit appraisal means valuing an integrated group of assets functioning as an economic unit as "one thing", without reference to the independent value of the component parts. The logic of this concept is that informed buyers and sellers will most likely buy or sell a viable operating unit as "one thing" and not as separate pieces of property."[1] The goal of unit appraisal is to value a group of integrated operating assets at their highest and best use. The unit concept recognizes that the highest and best of use of many individual assets is achieved when those assets are arranged together as an operating economic unit. An operating economic unit usually has a value greater than the sum of the individual value of the component parts of the unit.[2]

[1] Western States Association of Tax Administrators Committee on Centrally Assessed Property, Appraisal Handbook: Unit Valuation of Centrally Assessed Properties. (Self-pup, 2009), I-8

[2] For additional discussion, see the National Association of Tax Administrators. 1954. "National Association of Tax Administrators (NATA) Committee on Unit Valuation Report." Or Joint Interim Committee on Assessment Practices (CA). 1959. "Report of the Joint Interim Committee on Assessment Practices to the California State Legislature." or Advisory Commission on Intergovernmental Relations. 1963 *The Role of the States in Strengthening the Property Tax*. Vol.1.

B. A unit value appraisal considers the three basic approaches to value:
    1. Cost
    2. Income
    3. Market (Sales Comparison or Stock and Debt)

C. Under the unit concept, the market value of the unit includes the assemblage, enhancement, and/or synergistic value of all properties which comprise the unit. This includes all assets owned, used, and/or leased by a firm and needed in the operation of its business.

D. The unit rule, as applied to the valuation of public utilities, telecommunication networks, railroads, transportation systems, and other integrated or statutorily defined unitary property, is a method under which the value of the property within a particular jurisdiction is based upon a fair share of the value of an operating enterprise, of which the property is an integral part.

E. The appraiser's initial responsibility is to define the unit. In defining the unit, an appraiser should consider the following criteria:
    1. The nature of the properties to be appraised.
    2. The manner in which the properties are used.
    3. The permissible and most probable use of the properties.
    4. The ownership and control of the properties.
    5. A probable grouping of assets that would be sold as a unit.
    6. The appraiser is satisfied that the unit is operated to economically maximize profits and is not managed to forgo profitability for the benefit of a parent or affiliate.
    7. The availability of reliable and externally audited financial statements prepared in the normal course of business (i.e. income statements and balance sheets). Preference should be given to units with audited financial statements as opposed to units with un-audited financial statements.

F. Unit Valuation and Going Concern:
    1. The subject of a unitary appraisal is not the summation value of individual pieces of tangible property, plant and equipment with finite lives. The subject of a unitary appraisal is the value of all operating property functioning as a going concern. Going concern is defined as, "An ongoing operating business enterprise."[3]
    2. Liquidation, summation, or fractional appraisals involve valuing individual assets, with finite lives and do not consider the enhanced or synergistic value of a collection of assets working together as an operating going concern.

G. The unit value concept is superior to fractional or summation appraisals for valuing integrated operating units because it properly captures Going Concern Value. Going Concern Value is defined as, "The value of a business enterprise that is expected to continue to operate into the future."[4]

[3] *International Glossary of Business Valuation Terms*, June 2001, developed jointly by the American Institute of Certified Public Accountants, American Society of Appraisers, Canadian Institute of Chartered Business Valuators, National Association of Certified Valuation Analysts, and Institute of Business Appraisers.
[4] Ibid.

H. Intangibles:
    1. Unitary appraisals should include the value of all operating property both tangible and intangible.
    2. Under the unit value concept intangibles have no separate, distinguishable, market value apart from the tangible assets that they adhere to.[5]
    3. If intangible assets must be removed from the unit value to comply with local laws or statutes, they should be removed at their contributory value to the unit and not at values that have been derived separately from the unit.

    4. Exempt intangibles and other exempt property should be removed at their contributory values. One example of this would be using a market-to-book ratio to determine the contributory value of the intangible property to remove from the unit.

I. Regulation: Government regulation may impact the market value of a company.
    1. Rate regulation is one form of regulation that may impact the market value of a company; however, it does not determine the value of such a company.
    2. Ultimately, while rate-regulators set the price (rates) that rate-regulated companies may charge, they do not set the value nor dictate the methods that should be used to determine market value for rate-regulated companies.
    3. Government regulation does not invalidate any of the three basic approaches to determining value because the market value of any company is determined by market participants (investors), not by regulators.

J. Leased Property: The unit value appraisal should measure the value of the assets owned, used, and/or leased by the public service firm. The appraiser is required to include as part of the unit the value for property held under operating leases that captures the full bundle of rights inherent in the property. This includes both the leased fee (lessor) and the leasehold (lessee) interests.

K. Exempt property statutes are a matter of local law and regulation. Therefore, adjustments for exempt property that can be reliably located by state should be made to the allocated state value and not to the unit value. It may be appropriate to remove exempt property that cannot be located by state (e.g. patents, trademarks, or other exempt intangible property) from the unit value before allocating the unit value to the state.

[5] As part of a report prepared under contract with the Utah Office of Legislative Research and General Counsel for the Utah Tax Review Commission titled *A Review of Centrally Assessed Property Tax Issues in Utah* it was expressed that adjustment methods which attempt to remove intangible value from the unit value "generally have a substantial ad hoc component, and have little or no foundation in finance theory. They result in lower property values it is true, but whether the reduction is an appropriate measure of intangible value cannot be determined." The report further stated, "In principle it would be possible to value tangible and intangible assets separately if the cash flow associated with each type of asset could be isolated. In practice, it is impractical if not impossible to so isolate the income streams."

III. Cost Approach

A. A general way of determining a value indication of an individual asset is by quantifying the amount of money required to replace the future service capability of that asset.[6] The cost approach is an approach to value based on the principle of substitution, which is that a knowledgeable buyer would pay no more for an asset than the cost to acquire a similar asset of equivalent desirability and utility without undue delay.

B. When using the cost approach as an indicator of value, the following costs may be used:
    1. Original or Historical Cost
    2. Reproduction Cost
    3. Replacement Cost

C. Rate base for regulated utilities is not synonymous with net book or cost for appraisal purposes.

D. For a non-rate base regulated company, historical cost less depreciation may be less meaningful than other business value indicator (absent of recent write-offs, write downs or recent construction of an entire system). However, historical cost can represent an approximation of market value at the time the assets were purchased and placed into service, as it is a measurement of the actual costs incurred by the owner to place the current unit of assets into service.

E. The cost approach should not be the only approach used in an appraisal of a going concern unless it can be demonstrated that this approach is customarily used by buyers and sellers of similar property in determining market transaction prices.

F. The historical cost less depreciation indicator should include all costs incurred to place the property into service. Historic costs should not be reduced by a company's deferred federal income tax reserve.

G. A Replacement Cost New approach is usually impractical for large multi-state units.
    1. A Replacement Cost approach is only reliable if it influences potential market participants' investment decisions.
    2. Any Replacement Cost approach should adhere to the principle of substitution and include all costs.
    3. Under the principle of substitution, the replacement unit must be of equivalent utility and not result in any "costly delays in construction" or "undue cost due to delay."[7]
        a) An appraiser should consider the timeframe needed to replace the entire unit and whether this timeframe will lead to any "undue cost due to delay" as a result of replacing the unit.
        b) Costs to replace the unit including lost opportunity costs (foregone profits during construction compared to profits earned by purchasing an assembled existing unit) and financing costs should be considered.

[6] *International Glossary of Business Valuation Terms*, June 2001.
[7] Joseph Eckert, ed., *Property Appraisals and Assessment Administration* (Chicago: International Association of Assessing Officers, 1990), 205.

c) A true replacement unit should be physically and economically feasible and be available within a reasonable timeframe.

H. Depreciation:
1. Market depreciation includes loss in value from physical, functional, and economic causes.
2. Market depreciation should not be calculated using a circular formula methodology that compares the difference in value between one approach to value to another approach. Each approach to value should stand on its own merit and an appraiser's judgment as to which approach should be relied upon should be addressed in the reconciliation phase of an appraisal assignment.
3. Book depreciation is an accounting method used to match (amortize) expended costs of depreciable property against revenue.
4. The economic life and the depreciation method that should be used in a cost indicator are reflections of the market's perceptions of the total life, the remaining life, and the difference in value between new and existing property.
5. Market depreciation is typically not equal to book depreciation. However, accounting standards that require companies to test the book value of their assets for possible impairment may result in book depreciation tracking market depreciation more closely.
6. Market depreciation adjustments for functional or external obsolescence may be appropriate to apply to replacement cost or reproduction cost, but not historical cost (book value). Book depreciation is the appropriate amount to deduct from historical cost. Historical cost less book depreciation (net book value) should stand on its own as an indicator of value without further adjustments for additional market depreciation or appreciation. The relevance of HCLD should be reflected in the appraiser's reconciliation analysis.

I. Leased Property:
1. Operating leased assets are not on a company's balance sheet and the actual value of these assets are not typically disclosed. The cost approach should be adjusted to include the value of property held under an operating lease.
2. Some examples for determining the value of leased property include: Capitalizing an annual rent expense, discounting future minimum lease payments, or using a pricing guide that reports market values of like property.

IV. Income Approach

A. A general way of determining a value indication by using one or more methods that convert anticipated economic benefits into a present single amount.[8] The income approach is based on the valuation principle of anticipation, which is that value is based on the present worth of future anticipated benefits that a property will provide.

B. An income approach involves the projection and conversion of future income generated by the subject property into a value estimate via one or more capitalization techniques. There are two generally accepted capitalization methods: direct capitalization and yield capitalization.
    1. Both methods should produce similar results if applied properly.
    2. A direct capitalization rate expresses the relationship between a single year's income and price (value). (I/P = R)
    3. Direct capitalization differs fundamentally from yield capitalization in the way it is applied:
        a) In direct capitalization, a single year's income is converted into market value by a direct capitalization rate.
        b) In yield capitalization, cash flows for several years in the future, including proceeds upon sale, are converted into market value at the yield (discount) rate required by the market.
    4. A yield rate is "a measure of investment return that is applied to a series of incomes to obtain the present value of each; examples are the interest rate, the discount rate, the internal rate of return (IRR), and the equity yield rate (YE)."[9]
    5. A yield rate, a discount rate, and the opportunity cost of capital are all synonymous terms. However, they are different from a direct capitalization rate.
    6. The discount rate or yield rate should be consistent with the income stream or cash flow it is being applied to. For example, pre-tax rates should be used with pre-tax income or cash flows, common equity rates should be used with common equity income or cash flows and net cash flow rates should be used with net cash flow.

C. Capitalization Rates and Capital Structure:
    1. The components of a capitalization rate are:
        a) Equity rate
        b) Preferred rate
        c) Debt rate
    2. The methods used to derive each of the components of direct capitalization include:
        a) Equity rate - derived by an analysis of earning/price ratios from the stock market or from an analysis of the income and price from sales of public utility or railroad properties.
        b) Preferred rate - expresses the relationship of dividends divided by the market value of preferred stock.
        c) Debt rate - expresses the relationship of interest divided by the market value of debt.

[8] *International Glossary of Business Valuation Terms*, June 2001.
[9] American Institute of Real Estate Appraisers, *The Dictionary of Real Estate Appraisal,* 3rd ed. (Chicago: American Institute of Real Estate Appraisers, 1993).

3. The equity portion of a direct capitalization rate is not a cost of capital, but rather a relationship between earnings and prices observed in the market place. This rate is commonly known as the earnings/price ratio.
4. An overall direct capitalization rate may also be derived by identifying the relationship of a level of income with the market price paid for the debt and equity of an operating business or operating assets of a going concern.
5. The methods used to derive each of the components of yield capitalization include:
    a) An “equity rate” may be determined by using a model such as the:
        (1) Capital Asset Pricing Model
        (2) Discounted Cash Flow Model
        (3) Risk Premium Model
    b) A “preferred rate” is the annual dividends divided by the market value of the preferred stock.
    c) The “debt rate” is determined by analysis of yield to maturity.
6. A discount rate, overall capitalization rate, and/or the components of these rates (equity rate, preferred rate, debt rate) may be derived from an analysis of guideline companies. The standard for determining comparability is not “perfect” comparability, but rather “reasonably similar.” It is based upon as objective and comparable data as possible, but experience and judgment must be used in drawing conclusions from the data. When determining comparability, the appraiser may analyze:
    a) Industry Class
    b) Risk
    c) Growth
    d) Profitability
    e) Size or physical characteristics
    f) Other characteristics
7. When deriving the equity portion of an industry capitalization rate, the guideline companies used should be sufficient in number as to be representative of that industry.
8. A capital structure is made up of equity and debt percentages (ratios). The percentages are calculated using market or book values relative to total capital.
    a) The estimated market value or present value of the liability of operating leases should be included in the amount of debt financing included when calculating the capital structure.
9. To calculate an overall rate, the percentages of equity and debt are multiplied by their respective percentages of the capital structure, resulting in a weighted rate for each part of the capital structure. The sum of these weighted rates is the overall rate.
10. For market value appraisals, market capitalization rates and/or discount rates should be used. Authorized rates of return set by rate-regulators for rate-making purposes and market opportunity costs of capital are not synonymous measurements and should not be used interchangeably. Using authorized rates of return in place of a market derived yield, discount or opportunity cost of capital is not appropriate and could lead to gross errors in the estimate of market value.
11. Consistent with modern portfolio theory, the cost of equity should only consider risk factors that are common to the whole economy or industry that cannot be

diversified away. This risk is referred to as systematic risk or market risk. Adjustments to the cost of equity for risks that are specific to the subject unit of operating assets (unsystematic risk) including adjustments for liquidity, size, or non-diversification are not appropriate.

a) A reputable corporate finance text states, "Managers sometimes add fudge factors to a discount rate to account for worries…This sort of adjustment makes us nervous…Expected cash flow forecasts should already reflect the probabilities of all possible outcomes, good and bad. If the cash flow forecasts are prepared properly, the discount rate should reflect only the market risk of the project. It should not have to be fudged to offset errors or biases in the cash flow forecast."[10]

12. A weighted average cost of capital represents the opportunity cost of capital. Costs associated with issuing new securities of stock or debt (often referred to as issuance costs or flotation costs) are not part of the opportunity cost of capital. Flotation costs represent a negative cash flow and should be accounted for as such if they represent a part of the normal out flow of cash for a given company.

a) "The cost of capital depends only on interest rates, taxes, and the risk of the project. Flotation costs should be treated as incremental (negative) cash flows, they do not increase the required rate of return."[11]

D. Income Stream Estimate:

1. An appraiser may consider the following techniques to forecast future income: straight or weighted historical averages, percentage change, performance ratios, regression analysis, analyst forecasts, last year's income, company forecasts, and/or other generally accepted techniques.
2. Historical income should be adjusted to remove the effects of one time or extraordinary income or expenses that are not expected to reoccur in subsequent years.
3. Properties that generate income streams resulting in a return on net book greater than the required market rate will produce a value estimate in excess of net book.
4. The conversion of income to an indicated value requires the appraiser to determine the quality, quantity, shape, and durability of the income stream and select the appropriate technique for conversion to value.

E. Leased Property: The full market value of operating leases are not reflected in an income capitalization approach unless adjustments have been made to the reported accounting income stream.[12]

[10] Richard Brealey, Steward Myers, and Alan Marcus, *Fundamentals of Corporate Finance,* 4th ed. (New York: McGraw-Hill, 2004), 310-311.
[11] Brealey, Myers, and Marcus, *Fundamentals of Corporate Finance*, 336.
[12] Aswath Damodaran, *Damodaran on Valuation* (Hoboken: John Wiley & Sons, Inc., 2006), 72, 86-87, 116.

V. Market Approach

A. The market approach (or sales comparison approach) is based on a comparison of the subject property with reasonably similar, recently conveyed properties for which the price, terms and conditions of sale are known. The market approach may include an analysis of:
    1. Stock and debt transfers or transactions
    2. Mergers and acquisitions
    3. Actual sales

B. Sales analysis (e.g., analysis of mergers and acquisitions) is a valid technique for the appraisal of the operating property of public utilities, transportation companies, and other unitary properties.

C. Stock and debt indicators are determined by the application of the general financial appraisal principle that the market value of the debt and equity interests of the enterprise is equal to the market value of the assets presented on the balance sheet. Stock and debt indicators determine the value of a company's assets by appraising the value of the shareholder's equity and liabilities of the company, such as current liabilities, long-term debt, reserves, and deferred credits. Appropriate reductions shall be made for non-operating property of the company. The appraiser may consider the following ratios to eliminate non-operating properties:
    1. Non-operating net book value to total net book value.
    2. Non-operating original cost to total original cost.
    3. Non-operating income to total income.
    4. Non-operating market value to total market value.

D. Leased Property: The market value of the lessor's interest in the property financed with operating/non-capitalized leases must be added in the market approach to make it consistent with the other approaches.

VI. Reconciliation

A. To arrive at a final value estimate, the appraiser must analyze the results of the various approaches to value and consider the strengths and weaknesses of each approach. This process of examining and resolving the differences among the various value indicators is called reconciliation or can also be referred to as correlation.

B. Each indicator of value should stand on its own and should not be adjusted or converted to match another indicator of value. For example, a historical cost less depreciation (HCLD) cost indicator should not be adjusted down (or up) to match other income or market indicators. The difference between an HCLD indicator and an income or market indicator of value does not inherently reflect obsolescence (or appreciation) in the unit value appraisal.

C. Reconciliation is not a mechanical process that applies arbitrary weights to the three approaches to value, but is a process by which an appraiser considers all factors and conditions pertinent to each approach to value.

D. There are many considerations that must be made when reconciling the indicators of value such as: The availability of data to complete each indicator and quantity and quality of the components that went into each indicator.

E. Simply averaging all value indicators together is not a proper method since it would imply that all value indicators are equally valid, and this is rarely true.

VII. Allocation and Apportionment

A. Allocation is the distribution of a portion of the unit market value directly to a state or directly to a local taxing jurisdiction.

B. Apportionment is the distribution of a portion of the state's allocated unit value to a local taxing jurisdiction.

C. Allocation of a unit value is a process of distributing the unit value and not an estimate of market value.

D. For the allocation and/or apportionment process, one or more of the following factors may be used:
   1. Cost
   2. Income
   3. Use

E. When determining proper allocation factors (formula) for a company or industry, the following criteria should be considered:
   1. The factors should fairly distribute value among the states.
   2. The aggregate of all allocation percentages should total 100%.
   3. The factors should be simple in application and not burdensome.
   4. The factors should be based on readily available data.
   5. The factors themselves should not be an allocation.

F. In the allocation process of interstate transportation property (barges, trucks, bus-lines, airplanes, railroad cars, and locomotives) time, mileage, and/or income produced in a state are useful factors and should be considered if they can be measured.

VIII. Auditing

A. All states are encouraged to develop an auditing program of state assessed property consistent with state law.
   1. The states should provide sufficient training for their auditors so that the auditor can fulfill his/her assignment with a high level of professionalism.
   2. National or multi-state organizations such as NCUVS, WSATA, and MSATA should be encouraged to develop audit-training programs for their members.

B. Audits of state assessed property have a three-fold purpose:

1. To ensure compliance with state law and reporting requirements.
2. To assist the taxpayer to better understand the state's reporting requirements.
3. To assist the appraiser in gaining a better understanding of the company to improve future appraisals.

C. One or more appraisers who do state assessment should be part of an audit team to fully comply with standard VIII. B.

D. The state's audit team generally should focus on items in the state's reporting requirements that are not already audited by outside parties. For example, there should be little need to audit the financial statements published in a company's SEC form 10-K. However, the audit team should investigate the nature and composition of any line item in an audited report that it does not understand.

E. The audit team should interview company personnel and management directly involved in the development and maintenance of the accounting systems to assure themselves of the accounting systems reliability and integrity.

IX. General Information

A. Suggested Courses:
   1. Western States Association of Tax Administrators and Utah State University:
      a) Course 100 - Principles of Unitary Appraisal
      b) Course 101- Special Topics Workshop
      c) Course 102 - Principles of Property Tax Auditing