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OF LAND POLICY

Market Value for Utility Properties

Balancing the Complexity of Determining Market Value with Administrative Efficiency and Predictable Assessments

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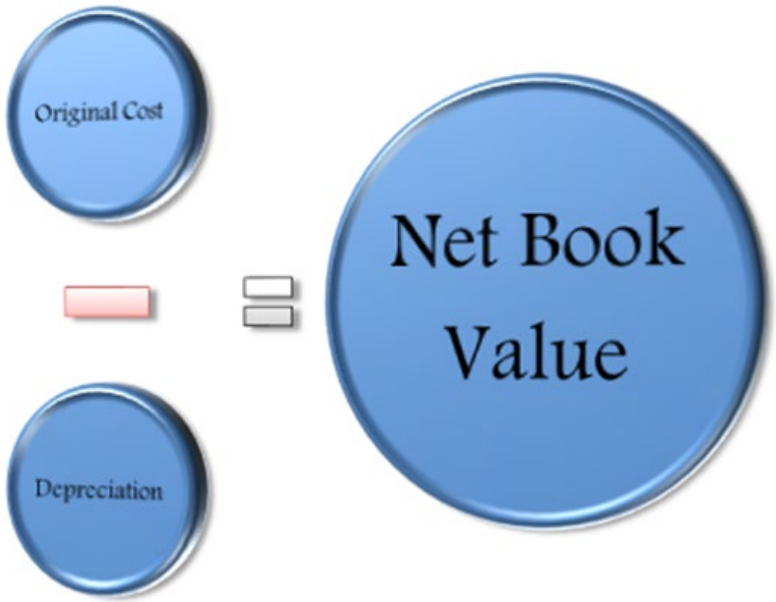
Most Discussions of Regulated Utility Valuation Begin with Net Book Value

- What is Net Book Value?

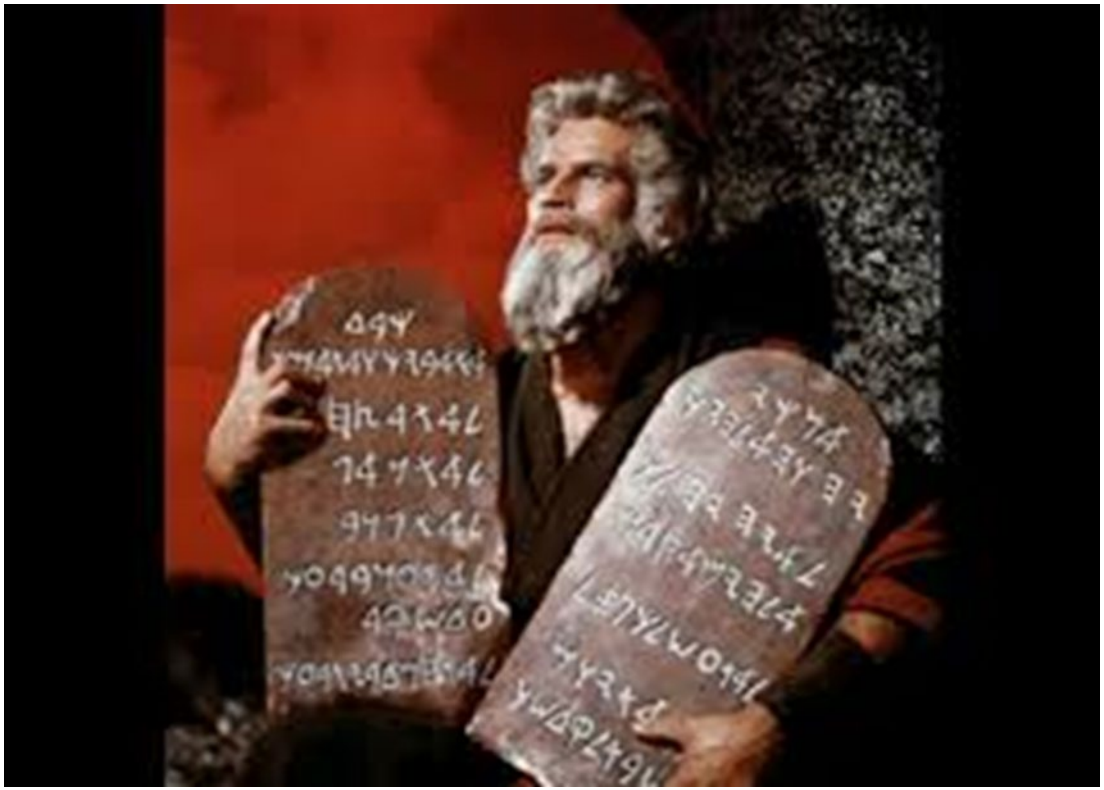
  Original Cost of Assets – Depreciation

- Why was it so well established in utility valuation?
  - ✓ Governed by FERC Accounting Rules
  - ✓ Availability - required in annual reports to regulators
  - ✓ Previously was the basis of calculating utility company earnings in the rate setting process



How do Utility Companies View NBV for Property Tax Purposes…

…it's what Moses brought down next from the mountain.



Why **was** NBV Relevant to Utility Valuation?

- Under the traditional regulatory structure, the rate of return calculation for utilities was based on its NBV:

  Utility Earnings = **NBV** * rate of return + expenses (e.g. **taxes**, depreciation, etc.)

- **Carryover Rate Base Rule** – If utility assets are purchased, the buyer is not allowed to recover anything above NBV in its rates

  Why – regulators believed that ratepayers shouldn't have to pay for the same assets twice

- So utilities argued that Net Book Value *capped* the market value of their property

Regulatory Change

- Utility companies demonstrated that mergers allow for the elimination of duplicate functions and reduce costs
- Cost reductions allow a utility to pay above the regulatory book value and still provide benefits to ratepayers in the form of lower or frozen rates
- Regulatory system has transformed, and return on NBV is no longer the sole driver

  2017 Nstar Electric case in Massachusetts revealed that the company had not had a rate case for over 20 years.

- New methods
  - ✓ Performance based rates (PBR)
  - ✓ Rate freezes
  - ✓ Earnings sharing
  - ✓ Rate collars

Approaches to Determine Market Value of Property

- **Sales**
- **Income**
  - Direct Capitalization
  - EBIDTA Multipliers
  - Discounted Cash Flow
- **Replacement Cost New Less Depreciation (RCNLD)**
  - Trended Costs
  - Depreciation (Physical, Functional and Economic)

Sales Comparison Approach

- Estimates the market value of a subject property based upon the comparison of prices paid for similar properties in a similar market
- The sales approach works best in active markets where prices paid serve as accurate indicators of market value
- **Advantages**
  - Sales of comparable properties provide an accurate indicator of the market value of the subject property
- **Limitations**
  - Sales of utility property that are comparable remain relatively limited, requiring significant adjustments that can dilute the market information contained in the sale
  - Sales including just utility assets are rare:
    - ✓ Enterprise sales require items such as cash, receivables, pension liabilities, etc. be separated
    - ✓ The process for removing them is tedious and convoluted

What are Utility Companies Buying?

- Utility's contend sale prices represent enterprise values that contain considerations beyond the property and can't be used

  HMMMM*????*

- Boston Edison's Purchase of Cambridge Electric, Commonwealth Electric and Canal Electric to form Nstar in 1999 shows why this isn't necessarily the case:
  - After removing the non-property assets, Boston Edison paid a **$540M** premium above net book for these three "enterprises"
  - Soon after the purchase the common stock of the 3 acquired companies was extinguished and the three companies ceased to exist
  - What was left? – **THE PROPERTY**

What are Utility Companies Buying (cont.)?

Physical Assets

Intangibles???

- Skilled work force – no contracts binding employees, and sales are often followed by significant layoffs
- Unique technology or methods – not present in gas and electric transmission and distribution
- Trademarks and branding –Example the Dorchester, MA Gas Tanks

Income Approach

- Market value estimate is based on the total present worth of the anticipated future income from the property
- Generally considered the best means of estimating market value for income producing properties including utilities

- **Types of Income Methods**
  - *Direct Capitalization* converts a single year's expected income by:
    - Dividing the net income by a capitalization rate
    - Multiplying the income estimate my a multiplier – EBITA (Earnings Before Interest, Taxes and Amortization) multipliers are most common
  - **Advantage**
    - Simple, straightforward calculation and metrics
  - **Disadvantage**
    - Income streams from utility assets can be volatile, so capitalizing a single year of income is not reliable

Income Approach – Discounted Cash Flow (DCF)

- **DCF** converts a net income stream and reversionary value into a present value

- **Advantage**

  – best method for measuring the present value of future cash flows when compared to a direct capitalization method.

  – DCF is based on a detailed projection of expected revenues and expenses, required capital expenses, and the effects of income taxes.

  – DCF is used by buyers and sellers in the marketplace for transactional decision-making.

DCF (continued)

- Disadvantage
  - The devil is in the details – the many projections make DCFs vulnerable to flawed assumptions and even manipulation

    In a recent case in Massachusetts, an appraiser admitted to constructing his DCF so that it would automatically produce a value equivalent to net book value even if the inputs were changed

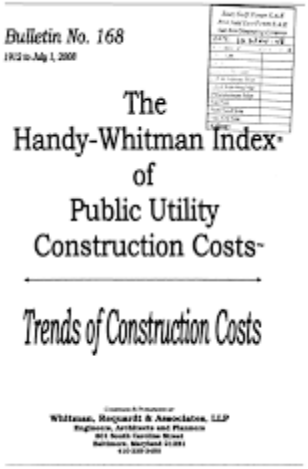
  - DCF Analysis has specific limitations in valuing rate regulated utility assets for property tax purposes

    For example - tax law may require that the DCF assume there is no replacement of assets built into the DCF since only the assets currently in place are valued

    Without replacement, as assets are depreciated they no longer produce revenue and future cash flows are lowered. This is not reflective of the real world, where assets are generally replaced with new equipment that generate cash flow

Cost Approach

- The cost approach develops an estimate of the cost to reproduce or replace the utility assets in the current market, making appropriate deductions for:
  - age,
  - wear and tear,
  - functional deficiencies
  - economic conditions
- The cost approach is premised on the ***principal of substitution***, assuming a purchaser would not pay more than the cost of replacing an asset with one that is equally desirable and useful
- For utility property, replacement costs are typically calculated by multiplying the original cost by an index that adjust the asset to its current costs



Cost Approach (continued)

- Advantages
  - Calculation of the current cost is straightforward with asset records maintained by the utility company
  - Information on physical depreciation can be found in studies published as part of the rate setting process
  - Eliminates any speculation on whether intangible assets are included because only physical assets are valued in the analysis
- Disadvantages
  - Not a direct measure of the market value of utility property
  - Requires separate calculation to factor in economic impacts
    - The impact of rate regulation (if present) is not considered
    - Typically an income or sales analysis is needed to calculate economic impact of rate regulation

The Utility Assessment Conundrum

- Nearly every community has rate regulated utility property in its tax base, and in many cases its among the largest taxpayers
- The market value of utility property can be hard to decipher, and all the approaches to value have limitations and drawbacks.
- The Perfect Utility Tax:
  - ✓ Accurate – reflect the market value of the property
  - ✓ Administratively efficient
  - ✓ Transparent – with the methods used to calculate the assessment known to all
  - ✓ Predictable – which among other things means its not subject to annual dispute and litigation

A Better Cost Approach?

"*The measurement of economic obsolescence is pretty much an exercise in ingenuity for the appraiser*"

Arlo Woolery, Valuation of Railroad and Utility Property

Massachusetts Case Law - Equal Weighting of RCNLD and NBV – 50%/50%

- RCNLD alone does not recognize economic obsolescence that results from rate regulation
- Weighting the rate base NBV equally with RCNLD accounts for economic obsolescence caused by rate regulation

New Hampshire Law - Equal Weighting of Original Cost (undepreciated) and NBV

- Original costs of assets "roughly" equivalent to RCNLD
- Requires assessor to only average utility reported costs – Original and NBV

What do you think?

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