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Market Approach Methods: Extracting Pricing Data from Market Evidence

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John has authored or co-authored numerous valuation journal articles including the following:

- *The Use and Misuse of Transaction Data in Valuations Prepared for Property Tax Purposes* (Journal of Property Tax Assessment & Administration)
- *The Property Tax Implications of Lease Accounting GAAP Changes* (Journal of Multistate Taxation and Incentives)
- *The Relevance of Fair Value Measurements for Property Tax Purposes* (Journal of Multistate Taxation and Incentives)

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Casey has contributed thought leadership to the professional literature by authoring the following valuation journal articles:

- *Comparability of Guideline Publicly Traded Companies in the Valuation of Atypical Companies* (Insights)
- *Extracting Relevant Pricing Data from Market-Based Evidence* (Insights)
- *Flotation Cost Adjustments to the Cost of Capital in Unit Principle Valuations* (Insights)

Presentation Summary

- The topic of this discussion is the application of the market approach in a unit principle valuation.
- A significant area of controversy in the application of the market approach to unit principle valuation is the selection of guideline publicly traded companies ("GPTCs") and guideline sale transactions.
- This discussion will focus on:
  - the strengths and weaknesses of the available databases that are commonly used to identify GPTCs or guideline sale transactions and
  - the use of the market derived data extracted from these databases in the application of the market approach to unit principle valuation.
- This discussion will not focus on when—or if—the market approach is appropriate in a given unit valuation analysis or in a certain taxing jurisdiction.

Presentation Outline

1. Introduction to the stock and debt method and to the guideline sale transaction method
2. Data sources for identifying GPTCs
   a. Differences between the databases
   b. Strengths and weaknesses of the available databases
3. Data sources for identifying guideline sale transactions
   a. Differences between the databases
   b. Strengths and weaknesses of the available databases
4. Identifying GPTCs and guideline sale transactions
5. Comparability criteria for selecting GPTCs or guideline sale transactions
6. Common analyst errors in selecting GPTCs and guideline sale transactions

Presentation Outline – Cont.

7. Financial statement normalization adjustments
8. Procedures for selecting taxpayer-specific pricing multiples based on comparability criteria and on normalization adjustments
9. Common analyst errors in applying the selected pricing multiples to the taxpayer financial fundamentals
10. Illustrative example of:
    a. identifying GPTCs and guideline sale transactions
    b. normalizing guideline company financial statements
    c. selecting taxpayer-specific pricing multiples
    d. applying taxpayer-specific pricing multiples
    e. synthesizing a market approach unit value conclusion
11. Final analyst considerations

Unit Valuation and Summation Valuation Market Approach Methods

- A unit principle valuation involves the collective valuation of a bundle of operating assets.
  - Typically used to value centrally assessed properties.
  - Generally accepted unit valuation market approach methods include (1) the stock and debt method and (2) the guideline sale transaction method.
  - In a market approach unit valuation, pricing multiples may be extracted from either guideline publicly traded companies or guideline sale transactions (collectively referred to as "guideline companies" in this presentation).
  - This presentation focuses on unit principle valuation market approach methods.
- A summation principle valuation involves the separate valuation of each category or component of assets of the subject property.
  - Typically used to value locally assessed property.
  - Generally accepted summation valuation methods include the direct sales comparison method.
  - In a summation valuation, pricing multiples are extracted from the sales of comparable bundles of operating assets.

Stock and Debt Method

- A generally accepted method used in market approach unit principle valuations
- The total unit value is estimated through the use of pricing multiples extracted from GPTCs
- Actually estimates the value of the taxpayer's debt and equity securities, which is also referred to as the market value of invested capital ("MVIC")
- Makes the fundamental assumption that the value of the taxpayer's debt and equity securities equals the value of the taxpayer's operating assets (i.e., the total unit)
- This assumption may not always be appropriate without proper adjustments
- GPTCs likely include the value of intangible attributes. Intangible attributes may include common stock liquidity, portfolio diversification value, investors' limited liability, expected appreciation in value, income tax attributes, and expectations of future merger and acquisition activity. Intangible attributes (1) are not assets but rather are investment features and (2) do not relate to the assets that exist as of the valuation date.

Stock and Debt Method – Cont.

- The MVIC of each GPTC may be calculated by adding (1) the market value of interest-bearing debt, (2) the market value of preferred equity, and (3) the market value of common equity.

Bid/Close Price per Common Share $		Common Shares Outstanding $000		Market Value of Common Equity $000		Market Value of Preferred Equity $000		Market Value of Interest-Bearing $000		Market Value of Invested Capital $000
50.00	×	100,000	=	5,000,000	+	1,000,000	+	4,000,000	=	10,000,000

- Pricing multiples may be developed by dividing MVIC by the underlying financial fundamental metrics for each GPTC. Common financial fundamental metrics include (1) net sales, (2) net operating income ("NOI"), and (3) earnings before interest, taxes, depreciation, and amortization ("EBITDA").

	Financial Fundamental Metrics			Indicated Pricing Multiple		
MVIC $000	Revenue $000	NOI $000	EBITDA $000	MVIC/ Revenue	MVIC/ NOI	MVIC/ EBITDA
10,000,000	5,000,000	1,000,000	1,500,000	2.0	10.0	6.7

- In order to estimate the subject total unit value, the pricing multiples extracted from the GPTCs are applied to the respective underlying financial fundamentals of the subject total unit.

Value Measure	Subject Financial Fundamental $000	Selected Pricing Multiple	Indicated Total Unit Value $000
MVIC/Revenue	6,200,000	2.0	12,400,000
MVIC/NOI	1,250,000	10.0	12,500,000
MVIC/EBITDA	1,725,000	6.7	11,500,000

Stock and Debt Method – Cont.

- Selection of pricing multiples should consider the comparability of the subject taxable assets and the GPTCs.
- Factors to consider may include (1) the financial and operational characteristics of the subject total unit and the GPTCs, (2) nontaxable assets, and (3) the value of any intangible attributes.
- For ad valorem property tax purposes, the last step in the stock and debt method is to subtract the market value of any nontaxable assets from the indicated total unit value to result in a value indication for the taxable assets (if prior adjustments to remove nontaxable asset value have not been made).
- The categories of nontaxable assets vary by taxing jurisdiction and often include intangible assets and financial assets.

Guideline Sale Transaction Method

- A generally accepted method used in market approach unit principle valuations
- This valuation method relies on recent sale transactions of similar units of property to estimate the value of the subject total unit.
- After making any necessary adjustments (e.g., differences in size, location, time of sale, physical characteristics, etc.), the adjusted transactional data are analyzed to extract market-derived pricing multiples.
- Pricing multiples are then applied to the relevant subject total unit financial fundamentals in order to estimate the value of the subject total unit. Common financial fundamental metrics include (1) net sales, (2) NOI, and (3) EBITDA.
- In order to estimate the subject total unit value, the pricing multiples extracted from the guideline sale transactions are applied to the respective underlying financial fundamentals of the subject total unit.
- For ad valorem property tax purposes, the last step in the guideline sale transaction method is to subtract the market value of any nontaxable assets from the indicated total unit value to result in a value indication for the taxable assets.

"Comparable" and "Guideline" Publicly Traded Companies/Sale Transactions

- In the application of a unit valuation market approach, analysts typically rely on **guideline** publicly traded companies/sale transactions.
- If the publicly traded companies/sale transactions are sufficiently similar to provide meaningful pricing guidance to the analyst (but are not directly comparable to the subject total unit), then they are referred to as "guideline" publicly traded companies/sale transactions.
- If the publicly traded companies/sale transactions are the same or directly comparable to the subject total unit, then they are referred to as "comparable" publicly traded companies/sale transactions.
- If the analyst relies on **guideline** publicly traded companies/sale transactions, the indicated subject total unit value may not be reasonable unless the analyst makes adjustments for any differences between the subject total unit and the guideline publicly traded companies/sale transactions.

Common Data Sources for Identifying:

GPTCs

- Bloomberg
- S&P Capital IQ
- Thomson ONE/Eikon
- FactSet
- MergentOnline
- Pitchbook
- Others

Guideline Sale Transactions

- Bloomberg
- S&P Capital IQ
- Thomson ONE/Eikon
- FactSet Mergers
- Public Stats
- Others

Differences between the Databases

- "You get what you pay for"— increases in functionality and performance (screening criteria, number of guideline companies, etc.) come at a cost.
- While many of these databases provide very similar data, there are differences that make it important to use more than one source for each search:
  - Companies are often categorized under different industry classifications.
  - The transaction price shown may be different in different databases, depending on what is included. Analysts should check source documents—for example, Securities and Exchange Commission ("SEC") Form 8-K—where possible.
  - Different data points may be available for the same transaction from different databases. For example, one source may include target company NOI, while another may show only EBITDA.
- Certain databases specialize in specific areas (i.e., private company transactions, small businesses, etc.)

Data Sources for Identifying GPTCs: Bloomberg

- Bloomberg is a fully searchable online database that provides financial information on nearly all (over 99 percent of total market capitalization) active and inactive U.S. publicly traded companies and active and inactive international companies. Detailed financial information is available. The information is updated frequently.
- Strengths:
  - Well recognized by courts and valuation professionals
  - Volume of available companies
  - Excellent technical support
  - Useful for further analysis of identified companies
- Weaknesses:
  - Not efficient to use as a screening database
  - Relatively expensive
  - Screening criteria typically yields fewer (although possibly more comparable) results
  - User interface is not intuitive—significant training associated with learning to utilize this database

Data Sources for Identifying GPTCs: S&P Capital IQ

- S&P Capital IQ contains detailed information on approximately 88,000 publicly traded companies (both domestic and foreign), approximately 45,000 of which are active. The information is derived from documents filed with the SEC and similar global stock regulators (as well as proprietary research). The database may be searched by Standard Industrial Classification ("SIC") code or by Standard & Poor's industry classifications. Detailed financial information is available. The information is updated frequently.
- Strengths:
  - Proprietary industry classifications typically yield meaningful results
  - Very useful as a screening database
  - Easy to use
  - Helpful interface for verification of data
  - Excel plug-in
  - Excellent technical support
- Weaknesses:
  - Company descriptions and classifications are most recent, but not necessarily as of valuation date
  - Price—although capabilities are commensurate with price

Data Sources for Identifying GPTCs: Thomson ONE/Eikon

- Thomson ONE/Eikon is a fully searchable online database that provides financial information on approximately 77,000 public companies (54,000 of which are active). Companies may be searched by Global Industry Classification Standard ("GICS") codes or SIC codes. Detailed financial information is available. The information is updated frequently.
- Strengths:
  - Extensive screening criteria
  - Useful source for companies that may be classified in a different industry
- Weaknesses:
  - Price
  - Purge of historical financial data after companies are acquired
  - Acquired databases may lose functionality after integration
  - Technical difficulties

Data Sources for Identifying GPTCs: FactSet

- FactSet is an online database that can be screened by numerous criteria, including industry; business description; financial data such as revenue, earnings, or assets; geographic location; closing price; and other criteria. The database contains information on over 75,000 companies worldwide. Over 2,000 unique financial data items are provided.
- Strengths:
  - Extensive screening criteria
  - Useful source for companies that may be classified in a different industry
  - Relatively easy to use—intuitive user interface
- Weaknesses:
  - Price—although capabilities are commensurate with price

Data Sources for Identifying GPTCs: MergentOnline

- MergentOnline is a fully searchable online database that provides financial information on over 15,000 active and inactive U.S. publicly traded companies and approximately 20,000 active and inactive international companies. Companies are listed by SIC codes and by North American Industry Classification System ("NAICS") codes.
- Strengths:
  - Well recognized in academia
- Weaknesses:
  - Fewer companies included in database
  - Not as well-known or recognized in valuation profession as are other databases

Data Sources for Identifying GPTCs: Pitchbook

- Pitchbook includes information on over 11,000 publicly traded companies (7,700 of which are active) located in the United States and internationally. Users can screen using numerous criteria including industry; business description; financial data such as revenue, earnings, or assets; geographic location; and other criteria. Data are sourced from Morningstar.
- Strengths:
  - Recently acquired by Morningstar—anticipated updates may increase functionality
- Weaknesses:
  - Relatively few companies
  - Screening criteria aren't as advanced as other databases
  - Current price may not be commensurate with capabilities for valuation purposes
  - Most useful for private equity and venture capital

Data Sources for Identifying Guideline Sale Transactions: Bloomberg

- Bloomberg provides data on transactions involving publicly traded companies. Transactions can be searched by industry sector or by SIC code, as well as by numerous other variables. Data points available include business description, deal synopsis and terms, transaction price, and seller financials (where available).
- Strengths:
  - Includes transactions of large companies
- Weaknesses:
  - Price
  - Few transactions of private companies
  - Not efficient to use as a screening database

Data Sources for Identifying Guideline Sale Transactions: S&P Capital IQ

- S&P Capital IQ contains transaction information on publicly traded and privately held companies located both in the United States and internationally. Transactions are searchable by industry or SIC code, as well as by numerous other variables, including business description. Data points available include business description, industry, deal synopsis and terms, transaction price, and seller financials (where available). A detailed transaction summary is available for each deal and (where available) users can click through directly to the relevant SEC documents.
- Strengths:
  - Easy to use
  - Extensive search criteria
  - Excel plug-in
- Weaknesses:
  - Minimal data on smaller companies

Data Sources for Identifying Guideline Sale Transactions: Thomson ONE/Eikon

- Thomson ONE/Eikon contains transaction information on over one million publicly traded and privately held companies, both in the United States and international. Transactions are searchable by SIC code or NAICS code, as well as by numerous other variables, including business description. Data points available include business description, industry, deal synopsis, deal terms, transaction price, and seller financials (where available), among others.
- Strengths:
  - Extensive screening criteria
  - Includes transactions from the 1970's (acquired SDC Platinum, one of the oldest transaction databases)
  - High volume of transactions
- Weaknesses:
  - Price—although capabilities are commensurate with price

Data Sources for Identifying Guideline Sale Transactions: FactSet Mergers

- FactSet Mergers provides information on U.S. and international mergers and acquisitions ("M&A") transactions including cross border deals. The database contains information on both public and private transactions. It uses a variety of public and proprietary sources, including but not limited to press releases, business wire releases, and SEC filings to find relevant transactions. Data points available include product line/business description SIC codes, deal synopsis, deal terms, transaction price, and seller financials (where available), among others.
- Strengths:
  - Established database with high recognition in the valuation profession
  - Easy to use—flexible search criteria and intuitive user interface
  - Can be searched for financial or strategic acquisitions
- Weaknesses:
  - Price—although capabilities are commensurate with price

Data Sources for Identifying Guideline Sale Transactions: Public Stats

- Public Stats is a fully searchable public company M&A transaction database with over 3,800 transactions dating back to 1995 that detail the 100 percent sale of public companies. Deals are searchable by SIC code. It features over 60 data points on each transaction sorted by profitability, leverage, liquidity, and activity ratios.
- Strengths:
  - Price
  - Transactions are generally larger and include complex taxpayer corporations
- Weaknesses:
  - Limited transactional detail presented (although source documents are easily accessible)
  - Fewer transactions

Identifying GPTCs and Guideline Sale Transactions

- The first procedure in a guideline company search is to develop—and document—relevant search criteria.
- Search criteria may include the following:
  - SIC code or NAICS code
  - Keywords or key phrases regarding business focus
  - Key markets served (e.g., customer-based/geography-based)
  - Domestic vs. international
  - Size parameters (e.g., assets, revenue, market capitalization)
  - Profitability parameters (e.g., NOI, EBITDA)
- Search criteria should be clearly described in the unit valuation report so that another analyst could replicate the search and arrive at the same results.

Selecting GPTCs and Guideline Sale Transactions

- A significant area of controversy in the market approach is the selection of guideline companies.
  - The court may give no weight whatsoever to the market approach.
  - The court may accept one party's market approach over the other party's market approach.
  - The court may accept only a subset of the guideline companies and perform a valuation based on the subset.
- There is no magic number when it comes to the total number of guideline companies selected, though a low number (e.g., fewer than four) typically results in less weight being attributed to the method in arriving at the opinion of value.
- From the results of the search, analysts should document any companies or transactions that are excluded.
- Analysts should describe the selected guideline companies in the unit valuation report.

Comparability Criteria for Selecting GPTCs or Sale Transactions

- The comparability criteria should be clearly detailed in the report so that another analyst could replicate the selection process and arrive at the same results. Analysts may consider the following comparability criteria:
  - Products/services
  - Size (i.e., revenue, book value of total assets)
  - Historical financial trends
  - Anticipated growth
  - Profitability
  - Liquidity (i.e., current ratio)
  - Activity ratios (i.e., days in inventory, working capital turnover)
  - Capital structure
  - Maturity of business
  - Dividend-paying capacity
  - Nature of competition and position within the industry
  - Other
- If the guideline companies are not sufficiently similar to the subject total unit and the analyst is not able to make adjustments necessary to create sufficient comparability, then the guideline companies may need to be excluded.

Comparability of Guideline Companies with Regard to Intangible Assets and Intangible Attributes

- GPTCs and guideline sale transactions are generally going-concern business enterprises are likely to include intangible assets and intangible attributes.
- Intangible assets may include both intangible assets reported on the balance sheet and internally developed intangible assets. Depending on the taxing jurisdiction, intangible assets may or may not be subject to property taxation.
- Intangible attributes may include the value to the investor of common stock liquidity, portfolio diversification value, investors' limited liability, and other attributes. Intangible attributes (1) are not assets but rather are investment features and (2) do not relate to the assets that exist as of the valuation date. Therefore, intangible attributes are not subject to property taxation.

Comparability of Guideline Companies with Regard to Expected Future Growth Rates

- Unit principle valuations value assets in place as of the valuation date. Therefore, the total unit growth rate should include expected future income from only assets in place as of the valuation date.
- The pricing multiples derived from guideline companies reflect investor expectations regarding both (1) the risk of the investment and (2) the growth of the investment.[1]
- Pricing multiples may have to be adjusted for differences in growth rates between guideline companies and subject taxable property. Guideline company growth rates may include expected growth from (1) potential mergers and acquisitions, (2) development of new products and services, or (3) expansionary capital expenditures.

1. *The Market Approach to Valuing Businesses*, 2nd ed. (New York: John Wiley & Sons, 2005), 243.

Comparability of Guideline Sale Transactions with Regard to Synergies

- Sale transactions often occur for synergistic reasons. Below are examples of synergies following an acquisition:
  - "We project that the [acquisition of Northern Utilities, Inc., and Granite State Transmission, Inc., by Unitil Corporation] will produce annual system-wide **synergy savings** of approximately $5.6 million."[1]
  - "The benefits that we expect to achieve as a result of [the acquisition of RJS Power by Talen Energy Corporation] will depend, in part, on our ability to realize anticipated growth opportunities, **cost savings** and other **synergies**."[2]
- Sale transactions that include synergies are likely not appropriate for estimating market value.
- Fair market value is defined with regard to "a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market."[3]
- Investment value is defined as "[t]he specific value of a property to a particular investor or class of investors based on individual investments requirements; distinguished from market value, which is impersonal and detached."[4]
- Investment value is often greater than fair market value because a particular buyer may expect synergistic benefits from an acquisition.

1. Unitil Corporation SEC Form S-3 filed December 3, 2008.
2. Talen Energy Corporation SEC Form 10-K for the fiscal year ended December 31, 2015.
3. ASA Business Valuation Standards (Washington: American Society of Appraisers, 2009), 27.
4. *The Appraisal of Real Estate*, 14th ed. (Chicago: The Appraisal Institute, 2013), 63.

Additional Guideline Sale Transaction Considerations

- Guideline sale transactions are often complex and include multiple plants or businesses.
- Guideline sale transactions may be (1) stock deals, (2) asset deals, (3) or stock and debt deals.
- Guideline sale transactions may include contingent payments.
- Guideline sale transactions include post-organizational pricing adjustments.
- Guideline sale transactions often include components that may be nontaxable including (1) intangible assets, (2) net working capital, and (3) other contract rights such as seller non-competition agreements.
- Guideline sale transaction details are often confidential; public disclosure may not provide sufficient data to establish general comparability or the magnitude of any adjustment necessary to create sufficient comparability for property tax valuation purposes.

If the analyst is not able to verify the terms of the guideline sale transactions, or reconcile any differences between the guideline transactions and the subject total unit, the guideline sale transaction method should be given little or no weight.

Illustrative Example: Natural Gas Distribution, Inc. ("NGD")

- NGD is a hypothetical natural gas distribution company serving residential, commercial, and industrial customers.
- NGD is currently in a property tax dispute with the state in which NGD is located. The relevant valuation date is January 1, 2014.
- In fiscal year 2013 ("FY 2013"), NGD had (1) revenue of approximately $1.0 billion, (2) NOI of $120 million, (3) EBITDA of $180 million, and (4) total assets of approximately $3.0 billion as of fiscal year-end 2013 ("FYE 2013").
- NGD revenue and profitability have decreased steadily over the last five years, primarily due to increased competition.
- NGD is rate-regulated by the state public service commission.
- NGD intangible assets and financial assets are not subject to property taxation.
- The analyst has decided to consider, among other unit valuation approaches and methods, the market approach stock and debt method.

Illustrative Example: Identifying GPTCs

- The analyst should consider more than one database in order to develop a full list potential GPTCs.
- The first step in a GPTC search is to develop relevant search criteria. For a search of the S&P Capital IQ database, initial search criteria may include (1) the gas utilities Standard & Poor's industry classification, (2) geographic location with in the United States, (3) total calendar year 2013 revenue between $100 million and $10 billion, and (4) a day close price as of December 31, 2013, greater than $0.01.
- The above criteria identified 34 publicly traded companies through the S&P Capital IQ database. For illustrative purposes, a selection of S&P Capital IQ database results is presented below.

Company Name	Industry Classifications	Total Revenue [CY 2013] ($USDmm, Historical rate)	EBITDA [CY 2013] ($USDmm, Historical rate)	Net Income [CY 2013] ($USDmm, Historical rate)	Market Capitalization [12/31/2013] ($USDmm, Historical rate)	Total Assets [CY 2013] ($USDmm, Historical rate)	Day Close Price [12/31/2013] ($USD, Historical rate)	Business Description
Ameren Corporation (NYSE:AEE)	Multi-Utilities (Primary); Multi-Utilities (Primary)	5,625.0	1,921.0	289.0	8,773.7	21,042.0	36.16	Ameren Corporation operates as a public utility holding company in the United States. The company engages in the rate-regulated electric generation, transmission, and distribution in Missouri; and rate-regulated natural gas transmission and distribution businesses in Illinois. It primarily generates electricity through coal, solar, nuclear pow er, natural gas, methane gas, hydroelectric pow er, and oil resources. The company serves residential, commercial, and industrial customers. As of February 19, 2016, it had a generating capacity of approximately 10,200 megaw atts; and served 2.4 million electric customers and approximately 900,000 natural gas customers. The company w as founded in 1881 and is headquartered in St. Louis, Missouri.

Note: CY = calendar year

Illustrative Example: Selecting GPTCs

- GPTCs can then be selected by reviewing financial and operational data based on the previously discussed criteria.
- Based on a review of the financial performance and operations of each of the GPTCs and consideration of the selection criteria presented in the accompanying rejection key, the identified 34 publicly traded companies can be narrowed down to select five GPTCs: (1) Atmos Energy Corporation, (2) Northwest Natural Gas Company, (3) Piedmont Natural Gas Co. Inc., (4) South Jersey Industries, Inc., and (5) Spire Inc.

Rejection Key:
1 - Line of business (propane tanks; no retail distribution; primarily midstream e.g., gathering, processing, compressing, treating, etc; holding co. that doesn't own material pp&e)
2 - Too diverse (owns wells, material nonregulated business, construction)
3 - Foreign Operations
4 - Size (revenue < $500 million or > $5 billion)
5 - Thinly traded

#	Company	Database	Accept / Reject	Reason for Rejection
1	Ameren Corporation (NYSE:AEE)	Capital IQ	Reject	1
2	American Midstream Partners LP	Thompson ONE/Eikon	Reject	1
3	AmeriGas Partners, L.P. (NYSE:APU)	Capital IQ	Reject	1
4	Atmos Energy Corporation (NYSE:ATO)	Capital IQ	Accept	NA
5	Avista Corporation (NYSE:AVA)	Capital IQ	Reject	1
6	Black Hills Corporation (NYSE:BKH)	Capital IQ	Reject	2
7	CenterPoint Energy, Inc. (NYSE:CNP)	Capital IQ	Reject	2
8	Chesapeake Utilities Corporation (NYSE:CPK)	Capital IQ	Reject	2
9	CMS Energy Corporation (NYSE:CMS)	Capital IQ	Reject	2
10	Dominion Questar Corporation	Capital IQ	Reject	2
11	DTE Energy Company (NYSE:DTE)	Capital IQ	Reject	2
12	Ferrellgas Partners, L.P. (NYSE:FGP)	Capital IQ	Reject	1
13	Gas Natural Inc. (AMEX:EGAS)	Capital IQ	Reject	4
14	Genie Energy Ltd	Thompson ONE/Eikon	Reject	2
15	Integrys Holding, Inc.	Capital IQ	Reject	1

Common Analyst Errors in Selecting GPTCs and Guideline Sale Transactions

- Common analyst errors include:
  - Failing to sufficiently describe and document the search criteria used to identify and select the guideline companies.
  - Selecting guideline companies that are not sufficiently similar to the subject total unit.
  - Selecting too few guideline companies to provide credible results.
- The more data there are available for each company and the greater the similarity between the guideline companies and the subject total unit, the fewer guideline companies are needed.

Financial Statement Normalization Adjustments

- The guideline company financial statements may need to be adjusted to (1) increase the comparability between the guideline companies and the subject total unit and (2) remove nonrecurring items and nonoperating items.
- Income statement adjustments may include:
  - Discontinued operations/restructuring charges
  - Accounting changes
  - Nonrecurring events (i.e., legal fees, penalties, etc.)
  - Income taxes
  - Change in LIFO reserve[1]
- Balance sheet adjustments may include:
  - Nonoperating assets/liabilities
  - Inventory levels
  - Long-term debt
  - Working capital

1. LIFO refers to an inventory accounting system in which inventory is priced on a "last-in, first-out" basis. As inventory costs generally increase over time, inventory accounting differences between GPTCs and the subject total unit may have a material effect on profitability. Analysts may have to make adjustments to present profitability on a comparable basis.

Financial Statement Normalization Adjustments – Cont.

- Actual examples of common financial statement items that may need to be adjusted:
  - "Inventory of natural gas in storage is priced on a weighted average cost basis. The replacement cost of natural gas stored underground for current use at September 30, 2013 and September 30, 2012 was less than the LIFO cost by $13.3 million and $24.3 million, respectively."[1]
  - "Operating income…includes the following items: merger-related costs of $4.6 million in 2010."[2]
  - "A $697 million charge was recorded in 2013 for the termination of the Colstrip operating lease to facilitate the sale of the Montana hydroelectric generating facilities."[3]
  - "Management agreement termination fee…$6.0 million [included in operating expenses]."[4]

1. Laclede Gas Company SEC Form 10-K for the fiscal year ended September 30, 2013.
2. Nicor Inc. SEC Form 10-K for the fiscal year ended December 31, 2010.
3. Talen Energy Corporation SEC Form 10-K for the fiscal year ended December 31, 2015.
4. Primary Energy Recycling Corporation consolidated financial statements for the years ended December 31, 2012 and 2013.

Illustrative Example: Adjustments to Financial Statements

- The analyst should make any necessary income statements and balance sheet adjustments. These adjustments should be made based on a review of GPTC 10-Ks and other available information. Assistance can be provided through the use of software from companies such as S&P Capital IQ.

	Atmos Energy Corporation	Northwest Natural Gas Company	Piedmont Natural Gas Co. Inc.	South Jersey Industries, Inc.	Spire Inc.
	$000	$000	$000	$000	$000
FY 2013 Operating Results:					
Revenue	3,875,460	758,518	1,278,229	731,421	1,017,000
Reported Net Operating Income	501,879	142,746	221,528	69,636	96,500
Normalization Adjustments [a]:					
Change in LIFO Reserve	-	-	-	-	11,000
Remove Unusual Legal Settlement	-	-	-	25,000	-
Remove Merger-Related Expenses	-	50,000	-	-	-
Total Normalization Adjustments:	-	50,000	-	25,000	11,000
Adjusted Net Operating Income	501,879	192,746	221,528	94,636	107,500

[a] The adjustments represent hypothetical adjustments for illustrative purposes and are not based on actual financial results.

Illustrative Example: Calculation of Pricing Multiples

- Pricing multiples may be developed by dividing the market value of invested capital ("MVIC") by the selected underlying financial fundamental metrics for each GPTC.
- Commonly used taxpayer-specific pricing multiples include:
  - MVIC/revenue
  - MVIC/NOI
  - MVIC/EBITDA
  - MVIC/tangible book value

		Financial Fundamental Metrics (FY 2013)			Indicated Pricing Multiple		
GPTC	MVIC (12/31/2013)	Revenue	NOI	EBITDA	MVIC/Revenue	MVIC/NOI	MVIC/EBITDA
Atmos Energy Corporation	7,276,812	3,875,460	501,879	739,486	1.9	14.5	9.8
Northwest Natural Gas Company	2,086,168	758,518	192,746	279,740	2.8	10.8	7.5
Piedmont Natural Gas Co. Inc.	4,198,897	1,278,229	221,528	342,325	3.3	19.0	12.3
South Jersey Industries, Inc.	2,865,070	731,421	94,636	159,526	3.9	30.3	18.0
Spire Inc.	2,495,877	1,017,000	107,500	156,800	2.5	23.2	15.9

Procedures for Selecting Taxpayer-Specific Pricing Multiples

- Consider business focus and industry practice when selecting most relevant pricing multiples (i.e., what does industry consider most relevant for transactional pricing purposes)
- Consider quantity of guideline company data available for each pricing multiple
- Consider relevance of time period with regard to expected operating results (e.g., focus on latest twelve months, latest fiscal year, 5-year average, etc.)
- Exclude outliers and results that are not meaningful (e.g., "negative" multiples)
- Develop a range of pricing multiples, typically classified using percentiles, quartiles, and indicators of central tendency (e.g., median, mean)
- Analyze relative grouping or dispersion of the data points for each pricing multiple

Procedures for Selecting Taxpayer-Specific Pricing Multiples – Cont.

- Selected pricing multiples should consider comparability of the subject total unit relative to:
  - Operating scale and business focus
  - Size
  - Profitability (e.g., profit margin)
  - Returns (e.g., returns on investment)
- Pricing multiples should be derived from a similar bundle of assets to the subject taxable assets. Adjustments may be necessary with regard to:
  - Nontaxable assets (i.e., intangible assets, financial assets)
  - Intangible attributes
  - Growth expectations
  - Synergies

Illustrative Example: Selecting Taxpayer-Specific Pricing Multiples

- Pricing multiples may be analyzed using indicators of central tendency (e.g., median, mean).

GPTC	Adjusted Pricing Multiple (FY 2013) [a] MVIC/Revenue	MVIC/NOI	MVIC/EBITDA
Atmos Energy Corporation	1.0	6.8	5.6
Northwest Natural Gas Company	2.0	7.6	5.7
Piedmont Natural Gas Co. Inc.	2.0	10.8	8.2
South Jersey Industries, Inc.	1.8	12.2	9.6
Spire Inc.	1.1	9.7	8.1
High	2.0	12.2	9.6
Mean	1.6	9.4	7.4
Median	1.8	9.7	8.1
Low	1.0	6.8	5.6

[a] Adjusted for growth rate differences, intangible attributes, and nonrecurring items.

- When selecting pricing multiples, analysts should consider the relevant operational and financial comparability factors (e.g., size, liquidity, profitability, etc.). This data may be tabulated into charts for comparative purposes.

Size (FY 2013 revenue, $000)	
Atmos Energy Corporation	3,875,460
Piedmont Natural Gas Co. Inc.	1,278,229
Spire Inc.	1,017,000
Natural Gas Distribution, Inc.	1,000,000
Northwest Natural Gas Company	758,518
South Jersey Industries, Inc.	731,421

Profitability (FY 2013 NOI to revenue)	
Piedmont Natural Gas Co. Inc.	21.6%
Northwest Natural Gas Company	19.4%
Atmos Energy Corporation	12.7%
Natural Gas Distribution, Inc.	12.0%
South Jersey Industries, Inc.	11.2%
Spire Inc.	10.2%

Illustrative Example: Adjustments for Financial Assets and Intangible Assets

- NGD financial assets and intangible assets are not subject to property taxation in the subject taxing jurisdiction.
- Pricing multiples include the value of all tangible, intangible, and financial assets. Adjustments may be made to (1) the financial fundamentals of the GPTCs, (2) the pricing multiples, or (3) the indicated value of the stock and debt method.
- Analysts may find it most efficient to adjust the indicated value of the stock and debt method for the value of financial assets and intangible assets.
- In the valuation of the NGD real property and tangible personal property, the analyst elects to remove financial assets and intangible assets from the indicated value of the stock and debt method.

Common Analyst Errors in Selecting Pricing Multiples

- Failing to explain why a particular pricing multiple was selected
- Failing to rely on the available data to support the selected pricing multiples
- Failing to adjust the selected pricing multiples for synergies, intangible assets, or growth, as appropriate
  - A study of data from Mergerstat Review from 1990 to 2010 found that the median price to earnings ("P/E") pricing multiples paid by strategic buyers were 12.9 percent higher than the median P/E pricing multiples paid by financial buyers.[1]
- Selecting a pricing multiple equal to the mean or median pricing multiple without explanation or justification
- Selecting too few pricing multiples to provide credible results
- Selecting pricing multiples that have little relevance to the subject total unit

1. Travis R. Lance, "Do M&A Transaction Prices Reflect Fair Market Value for Ad Valorem Property Tax Purposes?," *Journal of Multistate Taxation and Incentives* (May 2012): 26.

Illustrative Example: Applying Taxpayer-Specific Pricing Multiples

- The analyst considered pricing multiples based on GPTC financial data from (1) FY 2013 and (2) the five fiscal years from 2009 through 2013. However, because NGD revenue and profitability declined during the five years prior to the valuation date, the analyst estimated pricing multiples based on fiscal year 2013 GPTC financial data.

- Based on consideration of the comparability of NGD relative to the GPTCs and the position of NGD within the industry, the analyst estimated the following pricing multiples:
  - MVIC/revenue multiple of 1.5x
  - MVIC/NOI multiple of 10.0x
  - MVIC/EBITDA multiple of 7.5x

Value Measure	NGD FY 2013 Financial Fundamental $000	Selected Pricing Multiple	Indicated Total Unit Value $000
MVIC/Revenue	1,000,000	1.5x	1,500,000
MVIC/NOI	120,000	10.0x	1,200,000
MVIC/EBITDA	180,000	7.5x	1,350,000

Common Analyst Errors in Applying the Selected Pricing Multiples to the Taxpayer Financial Fundamentals

- Analysts may apply pricing multiples to taxpayer financial fundamentals from an unusual year.
- Analysts may fail to consider the financial performance of the taxpayer total unit relative to the GPTCs when applying weight to the selected pricing multiples.
- Analysts may apply too much weight to an irrelevant pricing multiple.
- Analysts may make numerous mathematical errors including the following:
  - Applying the pricing multiple to the incorrect financial fundamental (i.e., NOI × MVIC/EBITDA pricing multiple)
  - Applying the pricing multiple to a financial fundamental from an incorrect time period (i.e., FY 2013 NOI × 5-year average MVIC/NOI pricing multiple)

Illustrative Example: Synthesizing a Market Approach Unit Value Conclusion

- After considering the available data, the analyst gave equal weight to each of the three total unit value indications.
- The indicated total unit value includes all tangible, intangible, and financial assets. In order to estimate the value of the taxable real and tangible personal property, the analyst (1) estimated the fair market value the NGD financial and intangible assets and (2) removed the fair market value of NGD financial and intangible assets from the indicated value.
- The illustrative stock and debt method analysis is summarized in the following chart.

Value Measure	NGD FY 2013 Financial Fundamental $000	Selected Pricing Multiple	Indicated Total Unit Value $000	Value Weight	Weighted Value $000
MVIC/Revenue	1,000,000	1.5x	1,500,000	33.3%	500,000
MVIC/NOI	120,000	10.0x	1,200,000	33.3%	400,000
MVIC/EBITDA	180,000	7.5x	1,350,000	33.3%	450,000
			Indicated Total Unit Value		1,350,000
			Less: Identified Intangible Personal Property		(180,000)
			Less: Financial Assets (net working capital)		(170,000)
			Indicated Fair Market Value of NGD Taxable Assets		1,000,000

Final Considerations and Conclusion

- The stock and debt method and the guideline sale transaction method are both generally accepted market approach unit valuation methods.
- A common area of controversy in the market approach is the selection of GPTCs and guideline sale transactions.
- A common reason for rejection of the market approach is inadequate selection of GPTCs and guideline sale transactions.
- To develop a credible market approach unit value conclusion:
  - Identify sufficient number of guideline companies
  - Select guideline companies that are sufficiently similar to the subject total unit
  - Select a sufficient number of pricing multiples that are relevant to the subject total unit
  - Present detailed documentation supporting the identification, selection, adjustment, and application of pricing multiples derived from market evidence

Resources and Contact Information

For further questions or comments please reach out to us by email or phone—or talk with us in person.

Additional Resources:

- *Extracting Relevant Pricing Data from Market-Based Evidence* by John C. Ramirez and Casey D. Karlsen (Insights)
- *The Use and Misuse of Transaction Data in Valuations Prepared for Property Tax Purposes* by John C. Ramirez, Aaron M. Rotkowski, and Richard G. Smith (Journal of Property Tax Assessment & Administration)

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