50th Annual Wichita Property Tax Conference

How We Deal with Economic Disruption and Disequilibrium in the Unit Principle Valuation

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VALUATION & ASSESSMENT TOPICS FOR COMPLEX INDUSTRIES

Discussion Outline

- Indicia of economic disruptions and disequilibria
- Examples of economic disruptions and disequilibria
- How to identify economic disruption—the functional analysis
- The functional analysis and due diligence procedures
- Income approach considerations
- Cost approach considerations
- Market approach considerations
- Value reconciliation considerations
- Appraiser caveats regarding economic disruptions

Supplemental Readings Included with Conference Materials

Materials Related to Dealing with Economic Disruptions and Disequilibria

- “Property-Specific Risk Premium and Unit Principle Valuations” *Journal of Multistate Taxation and Incentives*, November/December 2020
- “Benchmarks to Estimate the Property-Specific Risk Premium in Unit Principles Valuations” *Journal of Multistate Taxation and Incentives*, January 2021
- “Due Diligence Interviews in Unit Principle Valuations” *Journal of Multistate Taxation and Incentives*, September 2020

Supplemental Readings Included with Conference Materials (cont.)

- "Functional Analysis as Part of a Valuation, Damages, or Transfer Price Analysis"
  Practical Tax Strategies, February 2021

Other Materials Included

- "Property Tax Valuation of Computer Software"
  Journal of Multistate Taxation and Incentives, February 2020
- "Working with a Valuation Specialist in the Appeal of a Unit Principle Valuation"
  Journal of Multistate Taxation and Incentives, August 2020

Supplemental Readings Included with Conference Materials (cont.)

- "Best Practices in the Measurement of Functional or Economic Obsolescence in the Valuation of Industrial or Commercial Property" *Journal of Multistate Taxation and Incentives*, July 2020
- "Intellectual Property Valuations for Property Tax Purposes" *Practical Tax Strategies*, February 2022

Indicia of Economic Disruptions and Disequilibria

- Economic disruptions may be associated with these indications:
  - The past is not a good indication of the future
  - Economic, industry, or business cycles are “off” their normal patterns
  - Growth rates in any economic metric vary—often suddenly
  - Expected growth rates are different in the short term than in the long term
  - Conditions are unexpected, both in occurrence and in duration
  - Could be caused by economic, social, political, natural, or other events
- These impacts may or may not be caused by a specific event
- These impacts affect—but are external to—the subject economic unit (e.g., taxpayer)

Examples of Economic Disruptions and Disequilibria

- War (Ukraine)
- Pandemic (COVID-19)
- Unexpected changes in economic metrics
  - High inflation
  - High interest rates
- Unexpected stock market declines
  - Black Monday – 10/19/1987
  - Black Tuesday – 10/29/1929
  - Black Friday – 9/29/1869

Examples of Economic Disruptions and Disequilibria (cont.)

- Unexpected political changes
  - Assassinations
  - Government overthrows
  - Unexpected changes in fiscal, monetary, or regulatory policies
- Major natural disasters
- Societal changes in supply/demand of goods and services
  - Supply chain issues
  - Great resignation – labor shortages

Economic Disruptions – Good News and Bad News

Bad News

- Cause havoc to the macroeconomy, capital markets, industries, individuals, and taxpayers
- Difficult for individuals and taxpayers to adjust to and manage through these disruptions
- Disruptions often cause sudden, unexpected, and significant changes to taxpayer unit values
- Disruptions often cause sudden, unexpected, and significant changes to property tax administration

Economic Disruptions – Good News and Bad News (cont.)

Good News

- We have experienced all of these types of disruptions before
- We know how to identify the impact of disruptions on taxpayers
- We know how to analyze—and to incorporate—the impact of disruptions in unit principle valuations
- After the impact of disruptions, the economy—and unit principle valuations—always adjust to the "new normal"

How to Identify Economic Disruptions – Functional Analysis

- A functional analysis is a fundamental procedure in any unit principle valuation—and in many other types of financial analyses
- Functional analysis procedures have been around for a long time
- The functional analysis is typically developed at the taxpayer unit level
- The functional analysis organizes the analyst’s assessment of the taxpayer unit’s
  - Assts employed
  - Risks assumed
  - Functions performed

How to Identify Economic Disruptions – Functional Analysis (cont.)

- The functional analysis helps identify the impact of the disruptions on the taxpayer unit
- The functional analysis helps to quantify the impact of the disruptions in the taxpayer unit value
  - On the valuation approaches and methods applied
  - On the valuation variables selected
  - On the valuation synthesis and conclusion

The Functional Analysis Process

- The functional analysis involves the appraiser’s assessment of the taxpayer unit’s
  - Assets employed
  - Risks assumed
  - Functions performed
- The functional analysis typically includes four categories of inquiries
  - Business operations of taxpayer company or subject unit
  - Subject economy segment and subject industry segment
  - Financial statements of taxpayer company or subject unit
  - Specific events that may impact taxpayer company or subject unit

The Functional Analysis Process (cont.)

- The functional analysis is developed through the following procedures:
  - Due diligence investigation and research
  - Assessment and analysis of diligence results
  - Documentation (in appraisal work papers and report)

Functional Analysis of Business Operations

Business operations considerations

- Taxpayer history and organization
- Services or products offered
- Production of services or manufacturing of products
- Clients or customers served
- Suppliers used
- Sales and marketing activities
- Management and other employees
- Taxpayer company/unit outlook

Functional Analysis of Economy and Industry

Subject economy and subject industry considerations

- Assessment of the economy and the taxpayer’s industry
- Assessment of the taxpayer’s competition

Functional Analysis of Taxpayer Company Financial Statements

Subject taxpayer or subject unit financial statements

- Understanding of taxpayer company and/or subject unit financial statements
- Understanding of each account on taxpayer company or subject unit financial statements
- The financial statements analyzed should be both historical and prospective

Functional Analysis of Specific Events

Specific events that may influence the taxpayer company/unit

- Identify significant events that impacted taxpayer/unit operations in recent years
- Identify significant events that may affect the taxpayers/unit in the near future
- Identify the influence on financial and/or operational metrics related to each event

The Functional Analysis Process

The appraiser typically considers the following procedures in the functional analysis process:

- Develop due diligence questions and inquiries specific to subject taxpayer/unit
- Focus on economic disruptions, when appropriate
- Obtain oral or written responses to due diligence inquiries
- Analyze diligence responses and perform independent research
- Select appropriate valuation approaches and methods
- Select appropriate valuation variables

The Functional Analysis Process (cont.)

- Develop value indications and synthesize the value conclusion
- Document all due diligence and all analysis of due diligence

Economic Disruption Considerations in the Unit Valuation

- Generally accepted unit principle valuation approaches and methods
  - Income approach
    - Yield capitalization method
    - Direct capitalization method
  - Cost approach
    - HCLD
    - RPCNLD
    - RCNLD
  - Market approach
    - Direct sales comparison method
    - Stock & debt method

Economic Disruption Considerations in the Unit Valuation (cont.)

- Apply valuation methods that will recognize the impact of disruption
- Focus on valuation variables most influenced by disruption

Economic Disruption in the Income Approach

- Yield capitalization method
  - Discrete period income projection should be sensitized to disruption
    - Revenue projection adjustments
    - Operating expense projection adjustments (fixed vs. variable)
    - Investment projection adjustments
    - Tax expense projection adjustments
  - Terminal period income projection should reflect a return to normalcy
    - Discrete projection period should last through disruption
    - Terminal period income should be stabilized
    - Terminal discount rate should be stabilized
    - Terminal long-term growth rate should be stabilized

Economic Disruption in the Income Approach (cont.)

- Discount rate is particularly sensitive to disruption
  - Discrete period discount rate may differ from terminal period discount rate
  - Discount rate components should reflect valuation date events
  - Consider shorter term Rf rate, beta or other industry adjustment, general equity risk premium, size risk premium
  - CSRP or PSRP may be particularly appropriate
  - Particularly important to select correct debt risk rating for subject unit
  - Long-term debt rate should be valuation-date-specific
- Terminal period direct capitalization rate is particularly sensitive to long-term growth rate
  - LTG means long term
  - LTG begins after disruption is normalized

Economic Disruption in the Income Approach (cont.)

- Direct capitalization method
  - Normalized income should be normalized—after impact of disruption
  - Capitalized income is a normal period of future income—it is not necessarily next 12 months income
  - Appraisers typically apply the two-stage (or H-model) direct capitalization method
    - Stage one considers normalized income during a short-term 3- to 5-year period
    - Stage two considers normalized income in perpetuity—after the economic disruption resolves

Economic Disruption in the Income Approach (cont.)

- Capitalization rate equals discount rate minus LTG rate
  - Appraisers often use different cap rates for stage one analysis than for stage two analysis
  - Stage one cap rate is PVAF (for short-term disruption period)
  - Stage two cap rate is perpetuity cap rate (after short-term disruption period)
  - The terminal period cap rate should assume a return to normalcy
- Long-term growth rate
  - LTG means long-term
  - This rate should assume growth after economic disruption resolves

Economic Disruption in the Cost Approach

- Cost metric considerations
  - Historical cost not typically impacted
  - RPCN (or THC) may be impacted by recent high inflation
  - RCN may be impacted by current high prices and supply chain disruptions
- Physical depreciation considerations
  - Typically not impacted
- Functional obsolescence
  - There may be excess capital costs if the unit was constructed during period of disruptions
  - There may be excess operating costs if the unit is operated during period of disruption

Economic Disruption in the Cost Approach (cont.)

- Economic obsolescence
  - This consideration will reflect the primary impact of economic disruption
  - Actual returns may be lower than normal
  - Required returns may be higher than normal
  - Difference between actual return and required return may indicate high amount of EO during period of disruption
  - EO may be temporary during period of disruption, but temporary EO is EO

Economic Disruption in the Market Approach

- Direct sales comparison method considerations
  - Appraiser should be careful to select particularly comparable transactions during disruption
  - Any transaction from a predisruption period may be too “stale” to consider
  - Each potential comparable transaction should be carefully analyzed for:
    - Impact of disruption
    - Trends in financial metrics
    - Strategic buyer considerations
    - Tax attributes related to transaction
    - Complex deal consideration (pricing) formula

Economic Disruption in the Market Approach (cont.)

- Transaction pricing multiples should be analyzed before applying to subject unit
  - Pricing multiples may be adjusted for relative impact of disruption
  - Mean or median pricing multiples are probably not applicable

Economic Disruption in the Market Approach (cont.)

- Stock and debt method considerations
  - Be particularly careful in selection of guideline public companies
  - Carefully correlate market pricing multiples to guideline company financial fundamentals (size, growth, profit margin, ROI)
  - Typically, long-term average (price to 5-year average EBITDA) pricing multiples are not applicable
  - Typically, current period (price to LTM) or ex ante (price to NTM) multiples are more applicable
  - Carefully select and apply market pricing multiples—adjusted for relative impact of disruption
  - Even depressed public company pricing multiples are positively influenced by liquidity, diversification, and tax attributes

Economic Disruption in the Value Reconciliation

- Valuation synthesis and conclusion
  - Apply valuation methods that supportably reflect the impact of economic disruption
  - Weight the value indications that supportably reflect the impact of economic disruption
  - Economic disruption impacts may be temporary—but they exist on the valuation date

Incorporating Economic Disruption in the Unit Valuation Report

- The unit principle valuation report should describe:
  - The nature of the economic disruption
  - The general impact of the disruption on the taxpayer industry
  - The general impact of the disruption on the subject taxpayer/unit

Economic Disruption Considerations – Appraiser Caveats

- Economic disruption and disequilibrium are just another form of uncertainty
- Appraisers deal with uncertainty in every unit principle valuation
- Appraisers have dealt with uncertainty before. They will do so again.
- Consider the specific valuation date
  - Analyze the disruption on that date
  - Analyze the unit value on that date
  - Recognize that the unit value will change—perhaps materially—before and after that date
- Avoid the temptation to apply hindsight bias in the unit valuation

Economic Disruption Considerations – Appraiser Caveats (cont.)

- The valuation should include the unit of taxable property only
  - Not a business valuation of the taxpayer owner
  - Should not include the value of future properties not in existence on the valuation date
  - Should not include property or assets not taxable in the subject jurisdiction
- What would market participants do? How would market participants consider disruption in their pricing of the bundle of taxable property?
- There is no silver bullet to adjust the unit value for the uncertainty of disruption. There is no single—or simple—adjustment.

Economic Disruption Considerations – Appraiser Caveats (cont.)

- Appraisers incorporate economic disruption and disequilibrium in the unit valuation by:
  - Developing the functional analysis of the subject unit
  - Analyzing each valuation variable by reference to that functional analysis
  - Documenting the due diligence valuation variable selection, valuation method selection, unit valuation analysis, and unit value reconciliation
- This process develops a well supported unit valuation analysis and a credible unit value conclusion.

Summary and Conclusion

- Indicia of economic descriptions and disequilibria
- How to identify economic disruption—functional analysis
- The functional analysis process—and due diligence procedures
- Economic disruption considerations in the unit valuation
- Income approach considerations
- Cost approach considerations
- Market approach considerations
- Reconciliation considerations
- Appraiser caveats regarding economic disruption
- Questions and discussion