



Institute for Professionals in Taxation

Valuation and Allocation of Intangible Assets— Methodology

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Robert Reilly has been a managing director of Willamette Management Associates for 24 years. Willamette provides business valuation, forensic analysis, and financial opinion services for transaction, financing, taxation, bankruptcy, litigation, and planning purposes. Robert frequently provides valuation, economic damages, and intercompany transfer price analyses related to intellectual property and other intangible assets. Robert has testified in both federal and state courts on numerous occasions on intangible asset valuation, damages, and transfer price matters.

Robert holds a BA in economics and an MBA in finance, both from Columbia university. He is a certified public accountant, accredited in business valuation, and certified in financial forensics. He is also a chartered financial analyst, chartered global management accountant, certified management accountant, certified business appraiser, certified valuation analyst, certified valuation consultant, certified review appraiser, certified real estate appraiser, and state-certified general appraiser.

Robert has served as a member of the AICPA forensic and valuation services executive committee (FVSEC), business valuation committee (BVC), and consulting services executive committee (CSEC). He is an inductee into the AICPA business valuation hall of fame.

Robert is the co-author of 12 valuation books including *Guide to Intangible Asset Valuation* (revised edition published in 2014 by the AICPA), *Practical Guide to Bankruptcy Valuation* (published in 2013 by the American Bankruptcy Institute), and *Guide to Property Tax Valuation*.

Learning Objectives

After attending this presentation, the participant will be able to:

- Define the term “intangible asset”
- Identify common examples of intangible assets and intellectual property
- Identify common reasons to value intangible assets
- Identify property valuation approaches and methods that may include intangible asset value
- Apply the generally accepted intangible valuation approaches
- Recognize the method to extract the identifiable asset value from the reconciled total property value
- Recognize the method used to extract the identifiable intangible asset value from each individual property valuation approach (before the final value reconciliation)

What is an Intangible Asset?

- It should be an asset, and it should be intangible
- FASB Statement of Financial Accounting Concepts No. 5 (CON 5) provides guidance on what is an asset:
 - It must provide probably future economic benefits
 - The owner/operator must be able to receive the benefit and restrict others from access to the benefit
 - The event that provides the right to receive the benefit has occurred
- Intangible means something that lacks physical substance
- For an intangible asset, intangible means that the economic benefit of the asset does not come from its physical substance
- Intangible asset value is based on the rights and privileges to which it entitles the owner/operator

Intangible Asset Attributes

- An intangible asset should have the following attributes
 - It is subject to a specific identification and recognizable description
 - It is subject to legal existence and legal protection
 - It is subject to the rights of private ownership, and that private ownership should be transferable
 - There is some tangible evidence or manifestation of the existence of the intangible asset
 - It is created or it comes into existence at an identifiable time or as the result of an identifiable event
 - It is subject to being destroyed or to a termination of existence at an identifiable time or as the result of an identifiable event
 - There should be a specific bundle of legal rights associated with the intangible asset

Identifiable Intangible Assets

ASC Topic 805 Recognition Considerations

- FASB ASC 805-30-20 Glossary:

Identifiable Intangible Assets

The acquirer recognizes separately from goodwill the identifiable intangible assets acquired in a business combination. An intangible asset is identifiable if it meets either (1) the separability criterion or (2) the contractual-legal criterion described in the definition of “identifiable.”

Knowledge Check I

Which of the following are the generally accepted criteria for the recognition of an identifiable intangible asset?

- A. It must meet the separability criteria and the contractual/legal rights criteria
- B. It must meet the separability criteria or the contractual/legal rights criteria
- C. It must always meet the separability criteria
- D. It must always meet the contractual/legal rights criteria

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Identifiable Intangible Assets

ASC Topic 805 Recognition Considerations

- FASB ASC 805-30-20 Glossary:

Identifiable

An asset is identifiable if it meets either of the following criteria:

1. It is separable, that is, capable of being separated or divided from the entity and sold, transferred, licensed, rented, or exchanged, either individually or together with a related contract, identifiable assets, or liability, regardless of whether the entity intends to do so.
2. It arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

Identifiable Intangible Assets

ASC Topic 804 Recognition Considerations

- FASB ASC 805-30-20 Glossary:

Intangible Assets

Assets (not including financial assets) that lack physical substance. (The term intangible assets refers to intangible assets other than goodwill.)

What is Not an Intangible Asset?

- There are intangible attributes or intangible influences that may affect the value of intangible assets
- These attributes or influences are not assets
- Examples include:
 1. High market share
 2. High profitability or high profit margin
 3. Lack of regulation
 4. A regulated (or protected) position
 5. Monopoly position (or barriers to entry)
 6. Market potential
 7. Breadth of customer appeal
 8. Mystique
 9. Heritage
 10. Competitive edge
 11. Life-cycle status
 12. Uniqueness
 13. Discount prices (or full prices)
 14. Positive image
 15. First to market
 16. Technological superiority
 17. Consumer confidence or trustworthiness
 18. Creativity
 19. High growth rate
 20. High return on investment
 21. Size
 22. Synergies
 23. Economies of scale
 24. Efficiencies
 25. Longevity

Examples of Intangible Assets: ASC 805

- Marketing-related intangible assets
 - Trademarks, trade names, service marks, collective marks, certification marks
 - Trade dress (unique color, shape, package design)
 - Newspaper mastheads
 - Internet domain names
 - Noncompetition agreements
- Customer-related intangible assets
 - Customer lists
 - Order or production backlog
 - Customer contracts and related customer relationships
 - Noncontractual customer relationships

Examples of Intangible Assets: ASC 805

- Artistic-related intangible assets
 - Plays, operas, and ballets
 - Books, magazines, newspapers, and other literary works
 - Musical works such as compositions, song lyrics, and advertising jingles
 - Pictures and photographs
 - Video and audiovisual material, including motion pictures or films, music videos, and television programs

Examples of Intangible Assets: ASC 805

- Contract-based intangible assets
 - Licensing, royalty, and standstill agreements
 - Advertising, construction, management, and service or supply contracts
 - Lease agreements (whether the acquiree is the lessee or the lessor)
 - Construction permits
 - Franchise agreements
 - Operating and broadcast rights
 - Servicing contracts such as mortgage servicing contracts
 - Employment contracts
 - Use rights such as drilling, water, air, timber cutting, and route authorities

Examples of Intangible Assets: ASC 805

- Technology-based intangible assets
 - Patented technology
 - Computer software and mask works
 - Unpatented technology
 - Databases, including title plants
 - Trade secrets, such as secret formulas, processes, and recipes

Examples of Intangible Assets: IRC 197

- Internal Revenue Code Section 197 intangible assets include:
 - Goodwill
 - Going concern value
 - Any of the following intangible items:
 - workforce in place including its composition and terms and conditions (contractual or otherwise) of its employment,
 - business books and records, operating systems, or any other information base (including lists or other information with respect to current or prospective customers),
 - any patent, copyright, formula, process, design, pattern, knowhow, format, or other similar item,
 - any customer-based intangible,
 - any supplier-based intangible, and
 - any other similar item.
 - Any license, permit, or other right granted by a governmental unit or an agency or instrumentality thereof

Examples of Intangible Assets: IRC 197 (cont.)

- Internal Revenue Code Section 197 intangible assets include: (cont.)
 - Any covenant not to compete (or other arrangement to the extent such arrangement has substantially the same effect as a covenant not to compete) entered into in connection with an acquisition (directly or indirectly) of an interest in a trade or business or substantial portion thereof
 - Any franchise, trademark, or trade name
 - Other Internal Revenue Code sections (e.g., 482 and 936) include other lists of intangible assets

Knowledge Check 2

Which of the following is a common example of a marketing-related intangible asset?

- A. Trademarks and trade names
- B. High market share
- C. Large market potential
- D. Being first to market

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Intangible Asset Recognition and Exemption in the Subject Taxing Jurisdiction

- Are intangible assets exempt from property taxation in your taxing jurisdiction?
 - The answer depends on the relevant statutory authority, judicial precedent, and administrative rulings
- What is an exempt intangible asset in your taxing jurisdiction?
 - The answer depends on the relevant statutory authority, judicial precedent, and administrative rulings
 - State and local taxing authorities are not bound by GAAP or federal income tax authority
- Does the assessor's property valuation include the value of intangible assets?
 - That depends on the property valuation approaches and methods used
 - That depends on the individual valuation variables selected

Intangible Asset Property Taxation Considerations

- Many jurisdictions exempt some or all intangible personal property from property taxation
- Intangible assets include intangible personal property and intangible real property
- To the extent that such exemptions apply, they typically apply to taxpayer properties that are assessed using either
 - summation (individual property) valuation methods or
 - unit (collective property) valuation methods
- Therefore, taxpayers will
 - determine if the assessor's property assessment includes the value of exempt intangible assets
 - identify the exempt intangible assets
 - value the exempt intangible assets
 - extract the value of the exempt intangible assets from the proposed property tax assessment

Types of Property that Encompass Intangible Assets in the Property Tax Assessment

- Some of the types of property that may encompass identifiable intangible assets include:
 - hospitality (e.g., hotels, restaurants)
 - health care (e.g., nursing homes, hospitals)
 - retail (e.g., regional shopping malls)
 - entertainment (e.g., theatres, stadiums)
 - sports (e.g., arenas, race tracks)
 - service properties (e.g., CATV, marinas)
 - utility properties (e.g., telecom, water/wastewater)
 - transportation properties (e.g., railroads, airlines)
 - extraction (e.g., mines)
 - oil and gas (e.g., refineries, pipelines)

Types of Property that Encompass Intangible Assets in the Property Tax Assessment (cont.)

- For these types of properties, it may be difficult for the assessor to separate the RE and TPP rental income from the business operating income
- These types of properties often sell as going-concern businesses
- Unless the assessor (or taxpayer) makes an effort to extract the taxpayer intangible assets, property assessments based on income approach, market approach, and (to some extent) cost approach methods will capture:
 - real estate,
 - tangible personal property, and
 - intangible assets.

When Are Intangible Assets Included in the Property Assessment?

- For summation method property tax valuation, intangible assets may be included in the assessment
 - in the income approach when
 - either operating business income (and not property rental income) is used or operating business cost of capital (WACC) components are used in the yield cap method or in the direct cap method
 - in the sales comparison approach when
 - market-derived pricing metrics are extracted from the sales of operating business properties
 - in the cost approach when
 - there is economic obsolescence and
 - the economic obsolescence analysis does not assign a fair rate of return to the taxpayer intangible assets

When Are Intangible Assets Included in the Property Assessment? (cont.)

- For the unit method of property tax valuation, intangible assets may be included in the assessment
 - in the income approach when
 - either operating business income (and not property rental income) is used or operating business cost of capital (WACC) components are used in the yield cap method or in the direct cap method
 - in the sales comparison approach when
 - pricing multiples are extracted from the sales of going concern businesses
 - pricing multiples (or direct capitalization rates) are extracted from public company stock market data
 - in the cost approach when
 - there is economic obsolescence and
 - the economic obsolescence analysis does not assign a fair rate of return to the taxpayer intangible assets

Effect of Intangible Assets on Cost Approach Economic Obsolescence

- Hypothetical example fact set
 - real estate (RE) and tangible personal property (TPP)
cost approach RCNLD \$10,000,000
 - identifiable intangible assets (IA) cost approach
RCNLD \$4,000,000
 - subject property business operating income \$1,000,000
 - required return on investment (ROI)/cost of capital 10%

Effect of Intangible Assets on Cost Approach Economic Obsolescence

- Simplified test for economic obsolescence—not considering intangible assets

required ROI				10%
actual ROI	$\frac{\text{operating income}}{\text{RE} + \text{TPP RCNLD}}$	$\frac{\$1,000,000}{\$10,000,000}$	=	<u>10%</u>
income shortfall/economic obsolescence				<u>0%</u>
value of RE and TPP (i.e., RCNLD)				<u>\$10,000,000</u>

Effect of Intangible Assets on Cost Approach Economic Obsolescence

- Simplified test for economic obsolescence—considering intangible assets

required ROI				10%
actual ROI	$\frac{\text{operating income}}{\text{RE} + \text{TPP} + \text{IA RCNLD}}$	$\frac{\$1,000,000}{\$14,000,000}$	=	<u>7.1%</u>
income shortfall/economic obsolescence	– (10% - 7.1%) ÷ 10%			<u>29%</u>
value of RE and TPP (RCNLD of \$10,000,000 – 29% ec obs)				<u>\$7,100,000</u>

Generally Accepted Intangible Asset Valuation Approaches and Methods

- Cost approach methods
 - Reproduction cost new less depreciation method
 - Replacement cost new less depreciation method
 - Trended historical cost less depreciation method
- Market approach methods
 - Relief from royalty method
 - Comparable uncontrolled transactions method
 - Comparable profit margin method
- Income approach methods
 - Differential income (with/without) method
 - Incremental income method
 - Profit split method (or residual profit split method)
 - Residual (excess) income method

Knowledge Check 3

Which of the following procedures will typically result in intangible assets being included in the property valuation?

- A. Ignoring economic obsolescence in the cost approach
- B. Using the band of investment method in the income approach
- C. Failing to confirm transaction prices in the sales comparison approach
- D. Capitalizing business operating income in the income approach

Knowledge Check 3

Which of the following procedures will typically result in intangible assets being included in the property valuation?

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- B. Using the band of investment method in the income approach
- C. Failing to confirm transaction prices in the sales comparison approach
- D. Capitalizing business operating income in the income approach**

Assembled Workforce Illustrative Valuation Example – Cost Approach, RCNLD Method

- Illustrative fact set
 - The valuation date is 1/1/15
 - The property operates with 50 employees
 - There are three principal staff levels; let's call them executives, managers, and administrative staff
 - The assessor valued the subject property by capitalizing the \$3 million business operating income by a 10% cap rate to conclude a \$30 million property value
 - The assessment includes the value of intangible assets
 - The analyst will estimate the value of the assembled workforce to extract that value from the total assessment

Trained and Assembled Workforce, Replacement Cost New Less Depreciation Method as of 1/1/15

Assembled Workforce <u>Employee Component</u>	No. of <u>Employees</u>	Average <u>Salary</u>	Other Costs <u>Factor</u>	Full Absorption <u>Cost</u>	Percent of the Total Annual (Full Absorption) Cost Required to			Percent of Full Absorption Cost to Replace <u>Employees</u>	Average Replacement Cost New <u>Component</u>	Total Replacement Cost New <u>Component</u>
					<u>Recruit Employees</u>	<u>Hire Employees</u>	<u>Train Employees</u>			
Executives	10	180,000	1.6	288,000	20%	20%	40%	80%	230,400	\$2,304,000
Managers	20	60,000	1.5	90,000	10%	10%	30%	50%	45,000	900,000
Administrative staff	<u>20</u>	40,000	1.4	56,000	5%	10%	25%	40%	22,400	448,000
Total employees	50									
Total direct cost and indirect cost components										3,652,000
Add:										
Developer's profit cost component										
Developer's profit margin										<u>10%</u>
Developer's profit cost component (rounded)										<u>365,000</u>
Total direct costs and indirect costs plus developer's profit										4,017,000
Add:										
Entrepreneurial incentive										
Estimated total workforce replacement period				6 months						
Estimated average workforce replacement cost investment (i.e., \$4,017,000 total cost ÷ 2)				\$2,009,000						
Required annual return on investment				16%						
Required return on investment for 6 month replacement period				8%						
Entrepreneurial incentive (i.e., \$2,009,000 × 8% (rounded))				\$161,000						
Total replacement cost new										<u>\$4,178,000</u>

Replacement Cost New – Direct Costs and Indirect Costs

- The RCN estimate considers the total compensation paid to each employee, labeled as “average salary.” These costs are direct costs.
- The RCN estimate considers all of the other expenses that the entity incurs related to each employee. These costs are indirect costs, including:
 1. payroll taxes
 2. employee benefits
 3. continuing professional education
 4. annual license and credential fees
 5. uniforms and lab coats
 6. employee parties, gifts, etc.

Replacement Cost New – Direct Costs and Indirect Costs (cont.)

- The total annual cost that the entity pays for an employee is called the full absorption cost. This full absorption cost includes:
 1. the compensation paid by the employer to the employee and
 2. the expenses paid by the employer to others so that the employee can perform his or her job.

Replacement Cost New – Direct Costs and Indirect Costs (cont.)

- The RCN includes all of the costs that the employer would incur to replace the current workforce with a brand new (but comparable) workforce. These costs may include:
 1. advertising for recruiting potential new employees to apply for each position
 2. interviewing expenses, background checks and other pre-employment tests, and placement fees incurred to have the new employee show up on day one
 3. on-the-job training in the particular position including first month training, first year training, and accumulated continuing education for long-term employees

Replacement Cost New – Direct Costs and Indirect Costs (cont.)

- There are two additional cost components to consider:
 1. developer's profit and
 2. entrepreneurial incentive.

Replacement Cost New – Developer's Profit and Entrepreneurial Incentive

- The developer's profit considers the profit margin that a management consulting, human resources outsourcing, or professional staffing firm would earn if a willing buyer retained such a firm to create the assembled workforce.
- Likewise, the operating business owners would expect to earn a profit on the sale of their internally developed assets to the willing buyer.
- There are several alternative procedures for estimating entrepreneurial incentive.
- A common procedure is to estimate the lost profits opportunity cost that the entity would experience during the intangible asset replacement period.

Replacement Cost New – Developer's Profit and Entrepreneurial Incentive (cont.)

- When using this procedure, the analyst should appropriately allocate the entity's overall profit to all of the intangible assets.
- Let's assume that the subject operating business has five intangible assets. The entrepreneurial incentive should be allocated among the five intangible assets.
- Another common entrepreneurial profit measurement procedure is to calculate a fair rate of return on the total intangible asset cost components (i.e., direct costs, indirect costs, and developer's profit).
- The assembled workforce RCN is the sum of all four cost components.

Illustrative Depreciation Considerations

- In order to reach a value conclusion, the analyst next estimates the workforce RCNLD. As in any cost approach analysis, the analyst considers if there is any deterioration or obsolescence related to this intangible asset.
- From the valuation due diligence, the analyst learns the following facts:
 1. two of the entity's managers are scheduled to retire in the next year or so
 2. one of the entity's admin staff is out on disability leave and is not expected to return to work
 3. the entity is overstaffed with regard to administrative staff; in addition to the admin on disability leave, any willing buyer would eliminate two of the administrative positions
 4. the entity has experienced very low turnover of the manager staff; because of long tenure, these managers earn an average annual salary of \$60,000; if the actual managers were replaced, they would be replaced with adequately qualified (but less tenured) employees earning an average annual salary of \$50,000

Trained and Assembled Workforce Physical Deterioration As of 1/1/15

<u>Workforce Components</u>	<u>No. of Employees</u>	<u>Average Direct and Indirect Replacement Cost New</u>	<u>Total Direct and Indirect Replacement Cost New</u>	<u>Developer's Profit and Entrepreneurial Incentive Cost Components</u>	<u>Total Replacement Cost New</u>	<u>Percent Depreciation</u>	<u>Accumulated Depreciation</u>
Managers	2	\$45,000	\$90,000	\$13,000	\$103,000	100%	\$103,000
Administrative Staff	1	22,400	22,400	<u>3,200</u>	<u>25,600</u>	100%	<u>25,600</u>
Total				16,200	128,600		<u>\$128,600</u>

Trained and Assembled Workforce Functional Obsolescence As of 1/1/15

<u>Workforce Components</u>	<u>No. of Employees</u>	<u>Excess Direct and Indirect Replacement Cost New</u>	<u>Excess Developer's Profit and Entrepreneurial Incentive Cost Components</u>	<u>Excess Total Replacement Cost New</u>	<u>Functional Obsolescence</u>
Managers	18	\$7,500	\$1,100	\$8,600	\$154,800
Administrative Staff	2	22,400	3,200	25,600	<u>51,200</u>
Total					<u>\$206,000</u>

Trained and Assembled Workforce Replacement Cost New Less Depreciation Method As of 1/1/15

Cost Approach Analysis	Cost Component
Replacement cost new (all employees)	\$4,178,000
Less: Physical deterioration allowance (inadequate staff)	128,600
Less: Functional obsolescence allowance (superadequate staff)	<u>206,000</u>
Equals: Replacement cost new less depreciation	<u>\$3,843,400</u>

- This RCNLD conclusion indicates what a willing buyer would pay to a willing seller for this assembled workforce, assuming that there is no economic obsolescence related to this intangible asset.

Trained and Assembled Workforce Economic Obsolescence As of 1/1/15

Selected Economic Obsolescence Data As of December 31, 2014

<u>Item</u>	<u>Financial or Operational Performance Metric</u>	<u>LTM Ended 12/31/14</u>	<u>Benchmark Measure</u>	<u>LTM Percent Shortfall</u>	<u>Benchmark Comparison Reference Source</u>
1	Average collected revenue per executive	\$340,000	\$420,000	19%	2014 industry average
2	Number of support staff per executive	4.0	3.2	25%	2014 industry average
3	Average salary per executive	\$180,000	\$220,000	18%	2014 industry average
4	Annual growth rate in the entity revenue	3.5%	4.5%	22%	actual subject entity average for 2010-14
5	Profit contribution per executive (pre-owner comp)	\$200,000	\$280,000	29%	2014 industry average
6	Profit contribution margin (pre-owner comp)	59%	67%	12%	2014 industry average
7	Average clients seen per executive per day	8.2	10	18%	the 2014 subject entity budget
8	Average revenue billed per client visit	\$80	\$100	20%	the 2014 subject entity budget
9	Return on the entity average assets	10%	12.5%	20%	actual subject entity average for 2010-14
10	Return on the entity average equity	20%	25%	20%	actual subject entity average for 2010-14

LTM benchmark measures percent shortfall:

– mean	20.3%
– median	20.0%
– mode	20.0%
– trimmed mean	20.3%
– trimmed median	<u>20.0%</u>
Economic obsolescence indication	<u>20%</u>

Trained and Assembled Workforce Economic Obsolescence Allowance As of 1/1/15

	<u>Cost Approach Analysis</u>	<u>Cost Component</u>
	Replacement cost new less depreciation	\$3,843,400
Times:	Selected economic obsolescence percent	<u>20%</u>
Equals:	Economic obsolescence allowance (rounded)	<u>\$768,700</u>

Trained and Assembled Workforce Cost Approach Valuation Synthesis and Conclusion As of 1/1/15

<u>Cost Approach Analysis</u>	<u>Cost Component</u>
Replacement cost new	\$4,178,000
less: Physical deterioration allowance	128,600
Less: Functional obsolescence allowance	206,000
Less: Economic obsolescence allowance	<u>768,700</u>
Equals: Replacement cost new less depreciation	<u>3,074,700</u>
Assembled workforce value (rounded)	<u><u>\$3,100,000</u></u>

- This \$3.1 million intangible asset value would be extracted from the \$30 million subject property value.

CATV Customer Relationships Illustrative Valuation Example

Income Approach – Yield Capitalization Method

- Illustrative fact set
 - The assessor valued all of the local CATV system RE and TPP at \$10 million using a unit valuation method, based on various valuation pricing multiples extracted from the sales of other going-concern CATV systems
 - The analyst will estimate the value of the system customer relationships to extract that value from the total assessment
 - The assessment includes the value of intangible assets
 - The analyst selected the income approach
 - The analyst selected the multiperiod excess earnings method (MEEM)
 - The valuation date is 1/1/15

CATV System
Residential Customer Relationship Valuation
Selected Valuation Variables
As of January 1, 2015

Projection Variable	Selected Valuation Variable Basis
Total CATV system 2015 budgeted revenue	\$6,000,000
Budgeted residential customer revenue	\$4,000,000
Budgeted commercial customer revenue	\$2,000,000
Annual revenue growth rates	Prepared in consultation with management
Customer attrition rate	Based on average of actual monthly attrition rates for 2011-2014
Remaining useful life	Years until the remaining revenue is less than 5% of current revenue
EBITDA margin %	Based on average of 2011-2014, normalized to exclude the new customer selling expense
Depreciation expense	15% of revenue, based on average of 2011-2014
Amortization expense	5% of revenue, based on average of 2011-2014
Income tax rate	Market participant effective income tax rate

Projection Variable	Selected Valuation Variable Basis
Contributory asset charges:	
Working capital charge	Working capital balance = 10% of revenue, based on 2011-2014 average; capital charge % = WACC
Tangible asset charge	Tangible asset value = \$4,800,000 based on RCNLD analysis of real estate and tangible personal property; \$4,800,000 = 80% of total revenue; capital charge % = WACC
Intangible asset charge	Intangible asset value = \$2,000,000, based on appraisals of software, trademarks, technology, and workforce; capital charge % = WACC; \$200,000 capital charge = 3% of total revenue
Capital expenditures	capx = 105% of depreciation expense, based on management projections; consistent with historical 10-year average
Working capital change	Based on projected annual change in working capital balance; the balance is based on 10% of remaining customer revenue
Discount period	Midyear discounting convention is assumed
Discount rate	Based on WACC

CATV System
Customer Relationships Valuation
Residential Customer Turnover Rates

Month	2011	2012	2013	2014
January	2.46%	2.08%	2.00%	2.10%
February	1.76%	1.93%	2.02%	1.94%
March	2.05%	2.04%	2.05%	2.08%
April	1.91%	2.01%	2.01%	2.08%
May	2.06%	1.98%	2.10%	1.95%
June	1.95%	1.99%	2.09%	2.00%
July	1.92%	2.00%	2.00%	1.78%
August	2.26%	2.05%	2.03%	2.00%
September	1.96%	2.02%	2.09%	2.11%
October	2.20%	2.10%	2.01%	2.03%
November	1.87%	2.00%	1.93%	1.86%
December	<u>1.56%</u>	<u>2.01%</u>	<u>1.90%</u>	<u>1.85%</u>
Annual Customer Turnover Rate	24.0%	24.2%	24.2%	23.8%

CATV System
Residential Customer Relationships Valuation
Normalized EBITDA Margin Analysis

	2010	2011	2012	2013	2014	Mean	Median	Selected
Reported EBITDA margin %	58.2	58.0	57.6	58.2	58.0	58.0	58.0	
+ New customer selling expense %	<u>2.0</u>	<u>2.2</u>	<u>2.4</u>	<u>2.2</u>	<u>2.0</u>	<u>2.2</u>	<u>2.2</u>	
= Normalized EBITDA margin %	60.2	60.2	60.0	60.4	60.0	60.2	60.2	60%

New customer selling expense includes advertising directed to new customers and new customer promotion expense.

CATV System
Depreciation/Amortization Expense
Capital Expenditures

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Remaining customer revenue	3,040,000	2,404,480	1,899,290	1,502,818	1,188,576	939,256	736,854	573,092	452,020	350,555	276,445
Depreciation expense (% of revenue)	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>	<u>15%</u>
Depreciation expense	456,000	360,672	284,894	225,423	178,286	140,888	110,528	85,964	67,803	52,593	41,467
Amortization expense (% of revenue)	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>	<u>5%</u>
Amortization expense	<u>152,100</u>	<u>120,224</u>	<u>94,965</u>	<u>75,141</u>	<u>59,429</u>	<u>46,963</u>	<u>36,843</u>	<u>28,655</u>	<u>22,601</u>	<u>17,528</u>	<u>13,822</u>
Depreciation & amortization expense	608,000	480,896	379,859	300,564	23,775	187,851	147,371	114,619	90,404	70,111	55,289
Capx % of depreciation expense	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>	<u>105%</u>
Capx	478,800	378,706	299,139	236,694	187,200	147,932	116,054	90,262	71,193	55,212	43,540

CATV System
Contributory Asset Charge
Intangible Assets
(\$000s)

Contributory Intangible Assets	Value
Computer software	500,000
Trademarks	500,000
Proprietary technology	500,000
Assembled workforce	500,000
Total	2,000,000
<u>Contributory Intangible Asset Capital Charge</u>	
Contributory intangible assets	2,000,000
Return on contributory assets	10%
Contributory intangible asset capital charge	200,000
÷ Total CATV System revenue	6,000,000
= Contributory intangible asset capital charge as a % of customer revenue	3%

CATV Customer Relationships—Note Regarding Commercial Customer Relationships

- The analyst also valued the CATV commercial customer relationships (that are budgeted to generate \$2,000,000 in next year revenue).
- The analyst used the same income approach and the same MEEM method.
- Due to time constraints, this analysis is not presented here.
- The analyst concluded a value for the commercial customer relationships to be \$800,000.

CATV Customer Relationships

Illustrative Example - Conclusion

- The assessor valued the total operating property at \$10,000,000.
- The analyst valued the residential customer relationships at \$1,900,000, the commercial customer relationships at \$800,000, and the other identifiable intangible assets at \$2,000,000
- The taxpayer will extract the \$4,700,000 intangible asset value from the \$10,000,000 proposed assessment, to conclude a value of the taxable RE and TPP of \$5,300,000
- We recall the analyst concluded that the RCNLD of the RE and TPP was \$4,800,000
- The difference between the \$4,800,000 RCNLD and the \$5,300,000 residual from total property assessment (i.e., \$500,000) is probably the goodwill/going concern value of the subject CATV business.

Knowledge Check 4

- Which of the following is a common income approach intangible asset valuation method?
 - A. Business enterprise value method
 - B. Capitalization of net rental income method
 - C. Residual (or excess) income method
 - D. Relief from royalty method

Knowledge Check 4

- Which of the following is a common income approach intangible asset valuation method?
 - A. Business enterprise value method
 - B. Capitalization of net rental income method
 - C. Residual (or excess) income method**
 - D. Relief from royalty method

Intangible Asset Extraction Procedures

- There are two common procedures to extract intangible asset values from total operating property values
 - Direct subtraction method
 - Transfer price (income allocation) method
- The direct subtraction method is easiest to understand:

Synthesized total value of operating property (based on any/all valuation approaches)

minus: Synthesized value of all identifiable intangible assets (based on any/all valuation approaches)

equals: Residual value of RE and TPP (and possibly some operating business goodwill/going concern value)

Intangible Asset Extraction Procedures (cont.)

- The transfer price (income allocation) method assumes the following:
 - The subject operating entity is split into two entities:
 - One entity operates the subject RE and TPP
 - One entity holds the intangible assets and licenses those intangible assets (at an arm's-length price—or ALP) to the operating company

Intangible Asset Extraction Procedures (cont.)

- Let's construct a simple hypothetical example:
 - The Taxpayer Company Refinery ("Refinery") is assessed at \$1,000,000,000
 - The assessor used several income approach methods and sales comparison approach methods to reach that assessment
 - Internally developed computer software is an important intangible asset at the Refinery
 - Intangible assets are exempt from property taxation in the subject jurisdiction
 - The analyst values the Refinery computer software on the next slide
 - To simplify the example, let's ignore all other exempt intangible assets

Taxpayer Refinery Computer Software Value

Cost Approach – Replacement Cost New less Depreciation (RCNLD) Method

<u>Computer Software System</u>	Estimated Software Development Development Effort—in <u>Person Months</u>	Elapsed Time to Develop Replacement Software—in <u>Calendar Months</u>	Full Absorption Cost per Person <u>Month</u>	Indicated RCNLD Method Component <u>\$000</u>
AS/400	4,531	29	\$14,585	66,100
Refinery operations	575	25	14,585	8,400
Tandem	3,304	16	14,585	48,200
Unisys	1,229	5	14,585	17,900
Pioneer	1,807	41	14,585	26,400
Voyager	325	12	14,585	4,700
Host to Host	<u>85</u>	9	14,585	<u>1,200</u>
Total direct and indirect costs component (rounded)	11,856	24		172,900
Plus: Developer's profit, at 16%				<u>27,700</u>
Subtotal				200,600
Plus: Entrepreneurial incentive, based on 2 years lost income				<u>31,200</u>
Equals: Total replacement cost new				231,800
Less: Functional obsolescence, based on software replacement plans				<u>36,900</u>
Equals: Subtotal				194,900
Less: Economic obsolescence, at 19%, based on income shortfall analysis				<u>37,000</u>
Equals: Computer software RCNLD				<u>157,900</u>
Computer software value (rounded)				<u>\$160,000</u>

Taxpayer Refinery Extraction of Intangible Asset Value—Direct Subtraction

- Direct subtraction analysis

\$1,000,000,000 synthesized value of Taxpayer Refinery total operating assets

less: \$160,000,000 value of Taxpayer Refinery computer software

equals: \$840,000,000 residual value of Taxpayer Refinery RE and TPP (assuming no other intangible assets)

Taxpayer Refinery Extraction of Intangible Asset Value—Direct Subtraction

- Assessor valuation of Taxpayer Refinery total assets

Income approach
value indication –
yield capitalization
method [a]
\$1,100,000,000

Income approach
value indication –
direct capitalization
method [b]
\$900,000,000

Sales comparison
approach value
indication – direct sales
comparison method [c]
\$960,000,000

Value of total assets

Valuation synthesis and conclusion –
assessor concludes reconciled value of
\$1,000,000,000 for Refinery total assets

Notes:

[a] Based on present value of Refinery total net cash flow

[b] Based on direct capitalization of Refinery total net operating income

[c] Based on comparable sales of other operating refineries and market-derived income pricing multiples

Taxpayer Refiner Extraction of Intangible Asset Value—Direct Subtraction (cont.)

minus

- Valuation of Taxpayer Refinery intangible assets

– Value of intangible assets

Cost approach value indication –
RCNLD method
\$160,000,000

- Valuation of Taxpayer Refinery assessable RE and TPP

= Value of tangible assets

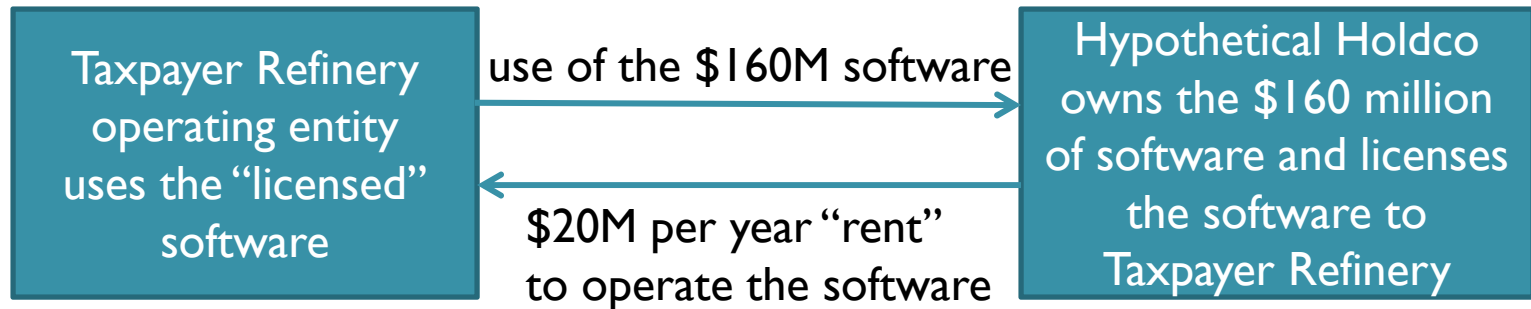
equals

Valuation synthesis and conclusion –
residual value of \$840,000,000
for Refinery assessable assets

Taxpayer Refinery Extraction of Intangible Asset Value – Income Allocation

- Transfer price (income allocation)
 1. $\$160,000,000$ value of Refinery computer software
 $\times 12.5\%$ fair rate of return on Refinery computer software
 $\$20,000,000$ annual transfer price (a.k.a. capital charge or license royalty) for the use of the computer software
 2. The fair return can be the taxpayer WACC or some other industry/taxpayer ROI measure
 3. The $\$20,000,000$ transfer price (or economic rent) is subtracted from the Refinery net operating income or net cash flow included in any income approach analysis or any sales comparison approach analysis
 4. The Refinery income is reduced by the “rent” of the software, so the Refinery value is reduced by the value of the software
 5. This transfer price is illustrated on the following slide

Taxpayer Refinery Extraction of Intangible Asset Value – Income Allocation (cont.)



hypothetical Refinery operating company owns all taxable RE and TPP only

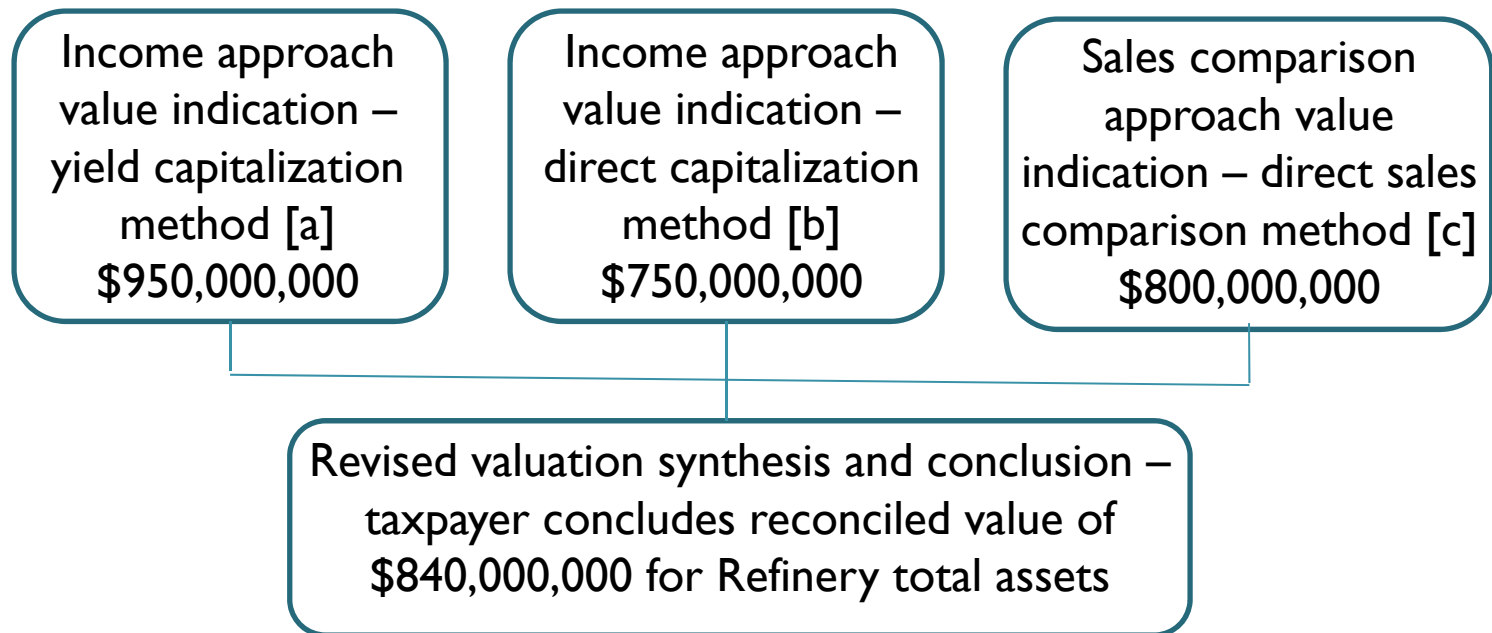
hypothetical intangible asset holding company owns all exempt intangible assets

Taxpayer Refinery Extraction of Intangible Asset Value—Income Allocation

- Based on “rent” of software from the hypothetical intangible asset holding company, the Refinery income (e.g., net cash flow, net operating income, EBIT, or EBITDA) is reduced by \$20,000,000 per year.
- The taxpayer applies the same Refinery total asset valuation approaches and methods that the assessor used, but with lower income metrics.

Taxpayer Refinery Extraction of Intangible Asset Value—Income Allocation

- Revised valuation of Taxpayer Refinery total assets



Notes:

[a] Excludes net cash flow related to fair return on Refinery software.

[b] Excludes net operating income related to fair return on Refinery software.

[c] Excludes EBITDA related to fair return on Refinery software.

Taxpayer Refinery Extraction of Intangible Asset Value – Income Allocation (cont.)

- No additional adjustments are needed to extract the intangible asset value because the intangible asset-related income is already excluded from the total asset value.

Knowledge Check 5

Which of the following are common methods for extracting intangible asset values from the total property value?

- A. The direct subtraction method and the transfer price (income allocation) method
- B. The capitalized excess earnings method and the residual from business enterprise value method
- C. The yield capitalization method and the direct capitalization method
- D. The valuation synthesis and conclusion method and the reconciliation method

Knowledge Check 5

Which of the following are common methods for extracting intangible asset values from the total property value?

- A. The direct subtraction method and the transfer price (income allocation) method**
- B. The capitalized excess earnings method and the residual from business enterprise value method
- C. The yield capitalization method and the direct capitalization method
- D. The valuation synthesis and conclusion method and the reconciliation method

Intangible Assets and Property Tax – Final Considerations

- When the operating property assessment is based on business operating income, operating business discount/capitalization rates, or operating business sale pricing multiples, then extract the value of the subject property identifiable intangible assets by either
 - the direct subtraction method or
 - the transfer price (income allocation) method

Intangible Assets and Property Tax – Final Considerations (cont.)

- To avoid the intangible asset extraction issue, value the subject operating property so as to exclude the value of intangible assets.
- To exclude intangible assets in the property valuation, be sure to use:
 - property rental income only (not operating business income)
 - property-specific discount/capitalization rates (not operating business discount/capitalization rates)
 - sales of in-place (but not in-use) properties only (i.e., nonoperating refineries, race tracks, mines, hotels, bowling alleys, restaurants, etc.)

Intangible Assets and Property Tax – Final Considerations (cont.)

- Alternatively, to exclude intangible assets in the property valuation:
 - rely on cost approach valuation methods—and include RE and TPP only in the cost components analysis—but be careful to consider the value of intangible assets in any economic obsolescence analysis

Key Points

- Economic benefits of intangible assets do not come from their physical substance however they do have a specific identification and recognizable description.
- Intangible assets include items such as trademarks, trade names, trade dress, domain names, customer lists and customer contracts.
- Many taxing jurisdictions exempt some or all intangible personal property from property taxation.
- Intangible assets are typically valued using the summation (individual property) valuation methods or unit (collective property) valuation methods. Unless the assessor or taxpayer makes an effort to extract the taxpayer intangible assets, valuation approaches will capture intangible assts.
- To extract intangible assets from an assessment, replacement cost new less depreciation including developers profit and entrepreneurial incentive must be calculated.
- Intangible assets can be extracted using the direct subtraction method or the transfer price method.

Questions and Discussion

