

Challenges in Measuring the Fair Value of Intangible Assets

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Robert F. Reilly – Biography

Robert Reilly has been a managing director of Willamette Management Associates for over 23 years. Willamette Management Associates provides business valuation, forensic analysis, and financial opinion services for transaction, financing, taxation, bankruptcy litigation, and planning purposes. 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, and certified valuation analyst.

Robert is the co-author of 12 textbooks related to valuation, including *Guide to Intangible Asset Valuation* (published in 2013 by the AICPA) and *Practical Guide to Bankruptcy Valuation* (published in 2013 by the ABI).

Discussion Outline

- Relevant GAAP provisions related to fair value accounting
- Identifiable intangible assets under GAAP
- Intangible attributes and influences
- Standard of value and premise of value issues
- Generally accepted valuation approaches and methods
- Valuation synthesis and conclusion procedures
- Valuation analyst due diligence procedures
- Reporting and defending the value conclusions
- Cost approach illustrative example
- Market approach illustrative example
- Income approach illustrative example
- Summary and conclusion

Today's CE Codes: 2265, 7987, 0675



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Fair Value GAAP Provisions You May Encounter

- FASB ASC topic 820 – Fair Value Measurements
- FASB ASC topic 805 – Acquisition Accounting
- FASB ASC topic 852 – Reorganizations
- FASB ASC topic 350 – Intangibles – Goodwill and Other
- FASB ASC topic 360 – Property, Plant, and Equipment

Fair Value Accounting

Discussion Caveats

- This discussion summarizes intangible asset fair value measurement procedures
- This discussion assumes the participant has at least a general understanding of valuation principles and procedures
- Fair value accounting valuation analysts specialize in financial accounting and subspecialize in fair value accounting
- Such practitioners keep up with rapidly changing GAAP guidance, including:
 - ASU – FASB accounting standards updates
 - FTB – FASB technical bulletins
 - FSP – FASB staff positions
 - SAB – SEC staff accounting bulletins
- This discussion focuses on intangible asset fair value topics in US GAAP; we will only mention IFRS in passing

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ASC Topics 820

Fair Value Terminology

- ASC 820-10-20 Glossary

Fair Value

The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Market Participants

Market participants are buyers and sellers in the principal (or most advantageous) market for the asset or liability that have all of the following characteristics:

- a. Independent of the reporting entity (that is, they are not related parties)
- b. Knowledgeable, having a reasonable understand about the asset or liability and the transaction based on all available information, including information that might be obtained through due diligence efforts that are usual and customary
- c. Able to transact for the asset or liability
- d. Willing to transact for the asset or liability (that is, they are motivated but not forced or otherwise compelled to do so)

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Principal Market

Most Advantageous Market

- ASC 820-10-20 Glossary:

Principal Market

The principal market is the market in which the reporting entity would sell the asset or transfer the liability with the greatest volume and level of activity for the asset or liability. The principal market (and, thus, market participants) should be considered from the perspective of the reporting entity, thereby allowing for differences between and among entities with different activities.

Most Advantageous Market

The most advantageous market is the market in which the reporting entity would sell an asset or transfer a liability with the price that maximizes the amount that would be received for the asset or minimizes the amount that would be paid to transfer the liability, considering transaction costs in the respective market(s). The most advantageous market (and, thus, market participants) should be considered from the perspective of the reporting entity, thereby allowing for differences between and among entities with different activities.

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Highest and Best Use

- ASC 820-10-20 Glossary:

Highest and Best Use

In broad terms, the use of an asset by market participants that would maximize the value of the asset or the group of assets within which the asset would be used.



Highest and Best Use Considerations

- ASC 820-10-35-12:
 - If the highest and best use of the asset is in use, fair value is measured using an in-use valuation premise.
 - When using an in-use valuation premise, the fair value of the asset is determined based on the price that would be received in a current transaction to sell the asset assuming that the asset would be used with other assets as a group and that those assets would be available to market participants.
 - The fair value of an asset in-use is determined based on the use of the asset together with other assets as a group (consistent with its highest and best use from the perspective of market participants), even if the asset that is the subject of the measurement is aggregated (or disaggregated) at a different level for purposes of applying other guidance.



Highest and Best Use Considerations

(cont.)

- ASC 820-10-35-13:
 - If the highest and best use of the asset is in-exchange, fair value is measured using an in-exchange valuation premise.
 - When using an in-exchange valuation premise, the fair value of the asset is determined based on the price that would be received in a current transaction to sell the asset standalone.



ASC Topic 805

Fair Value Terminology

- 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.

ASC Topic 805

Fair Value Terminology (cont.)

- 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.

Intangible Assets

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



ASC Topic 852

Fresh-Start Accounting

- ASC 852-10-45-19 and 20 – Fresh-Start Reporting
Entities that adopt fresh-start reporting...apply the following principle:

The reorganization value of the entity is assigned to the entity's assets and liabilities in conformity with Subtopic 805-20. If any portion of the reorganization value cannot be attributed to specific tangible assets or identified intangible assets of the emerging entity, such amount is reported as goodwill.

Reorganization Accounting Terminology

- ASC 852-10-15-1 – Entities

This Subtopic provides guidance on financial reporting by entities that have filed petitions with the Bankruptcy Court and expect to reorganize as going concerns under Chapter 11 of title 11 of the United States Code.

- ASC 852-20-15 – Reorganization Value

The value attributed to the reconstituted entity, as well as the expected net realizable value of those assets that will be disposed of before reconstitution occurs. Therefore, this is the value of the entity before considering liabilities and approximates the amount a willing buyer would pay for the assets of the entity immediately after the restructuring.

What is an Intangible Asset?

- It must be an asset, and it must be intangible
- FASB Statement of Financial Accounting Concepts No. 5 (CON 5) provides guidance on what is an asset:
 - It must provide probable 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



Intangible Asset Transferability

- An intangible asset should be capable of being sold or transferred either (1) by itself or (2) with other intangible assets or (3) with other tangible assets
- If an intangible asset is transferable as part of a bundle of assets, then it is transferable
- An intangible asset does not need to be transferable separately and independently from any other assets
- Some intangible assets are typically transferred separately from other tangible or intangible assets
- Other intangible assets are typically transferred as part of an assemblage of assets
- Regardless of the structure of the transfer, the intangible asset ownership should be transferable from one owner to another owner

Intangible Influences or Attributes

- Intangible influences or intangible attributes are not intangible assets
- Intangible factors or influences that do not qualify as intangible assets include the following:
 - High market share
 - High profitability or high profit margin
 - Lack of regulation
 - A regulated (or protected) position
 - Monopoly position (or barriers to entry)
 - Market potential
 - Breadth of customer appeal
 - Mystique
 - Heritage or longevity
 - Competitive edge
 - Life-cycle status
 - Uniqueness
 - Discount prices (or full prices)
 - Positive image
 - First to market
 - Technological superiority
 - Consumer confidence/trustworthiness
 - Creativity
 - High growth rate
 - High return on investment
- These attributes may increase the value of the actual intangible assets

Difference Between Tangible Assets and Intangible assets

- The tangible elements of an intangible asset (e.g., a list of software source code) do not convert that asset into a tangible asset
- The important economic difference between a tangible asset and an intangible asset is this:
 - The value of a tangible asset is derived from its tangible nature
 - The value of an intangible asset is derived from its intangible nature

ASC 805 Categories of Identifiable Intangible Assets

- ASC 805-20-55 presents five categories of identifiable intangible assets:
 - Marketing-related intangible assets
 - Customer-related intangible assets
 - Artistic intangible assets
 - Contract-related intangible assets
 - Technology-related intangible assets

ASC 805 Marketing-Related Intangible Assets

- Examples of marketing-related intangible assets:
 - Newspaper mastheads – The unique appearance of the title page of a newspaper or other periodical
 - Trademarks, service marks, trade names, collective marks, certification marks – A trademark represents the right to use a name, word, logo, or symbol that differentiates a product from products of other entities. A service mark is the equivalent of a trademark for a service offering instead of a product. A collective mark is used to identify products or services offered by members affiliated with each other. A certification mark is used to designate a particular attribute of a product or service such as its geographic source or the standards under which it was produced.

ASC 805 Marketing-Related Intangible Assets (cont.)

- Examples of marketing-related intangible assets:
 - Trade dress – The overall appearance and image (unique color, shape, or package design) of a product.
 - Internet domain name – The unique name that identifies an address on the Internet. Domain names must be registered with an Internet registry and are renewable.
 - Noncompetition agreements – Rights to assurance that companies or individuals will refrain from conducting similar businesses or selling to specific customers for an agreed-upon period of time.

ASC 805 Customer-Related Intangible Assets

- Examples of customer-related intangible assets:
 - Customer lists – Names, contact information, order histories, and other information about a company’s customers that a third party, such as a competitor or a telemarketing firm, would want to use in its own business.
 - Customer contracts and related customer relationships – When a company’s relationships with its customers arise primarily through contracts and are of value to buyers who can “step into the shoes” of the sellers and assume their remaining rights and duties under the contracts, and which hold the promise that the customers will place future orders with the entity or relationships between entities and their customers for which:
 - The entities have information about the customers and have regular contacts with the customers, and
 - The customers have the ability to make direct contact with the entity.



ASC 805 Customer-Related Intangible Assets (cont.)

- Noncontractual customer relationships – Customer relationships that arise through means such as regular contacts by sales or service representatives, the value of which are derived from the prospect of the customers placing future orders with the entity.
- Order or production backlogs – Unfilled sales orders for goods and services in amounts that exceed the quantity of finished goods and work-in-process on hand for filling the orders.

ASC 805 Artistic-Related Intangible Assets

- Examples of artistic-related intangible assets:
 - Plays, operas, ballets
 - Books, magazines, newspapers, and other literary works
 - Musical works such as compositions, song lyrics, and advertising jingles
 - Photographs, drawings, and clip art
 - Audiovisual material including motion pictures, music videos, television programs

ASC 805 Contract-Related Intangible Assets

- Examples of contract-based intangible assets:
 - License, royalty, standstill agreements – License agreements represent the right, on the part of the licensee, to access or use property that is owned by the licensor for a specified period of time at an agreed-upon price. A royalty agreement entitles its holder to a contractually agreed-upon portion of the income earned from the sale or license of a work covered by patent or copyright. A standstill agreement conveys assurance that a company or individual will refrain from engaging in certain activities for specified periods of time.
 - Advertising contracts – A contract with a newspaper, broadcaster, or Internet site to provide specified advertising services to the acquiree.
 - Lease agreements – Whether the acquiree is the lessee or lessor

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ASC 805 Contract-Related Intangible Assets (cont.)

- Construction permits – Rights to build a specified structure at a specified location.
- Construction contracts – Rights to become the contractor responsible for completing a construction project and benefit from the profits it produces, subject to the remaining obligations associated with performance (including any past-due payments to suppliers and/or subcontractors).
- Construction management, service, or supply contracts – Rights to manage a construction project for a fee, procedure specified services at a specified fee, or purchase specified products at contractually agreed-upon prices.
- Broadcast rights – Legal permission to transmit electronic signals using specified bandwidth in the radio frequency spectrum, granted by the operation of a communication laws.

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ASC 805 Contract-Related Intangible Assets (cont.)

- Franchise rights – Legal rights to engage in a trade-named business, to sell a trademarked good, or to sell a service-marked service in a particular geographic area.
- Operating rights – Permits to operate in a certain manner, such as those granted to a carrier to transport specified commodities.
- Use rights – Permits to use specified land, property, or air space in a particular manner, such as the right to cut timber, expel emissions, or to land airplanes at specified gates at an airport.
- Servicing contracts – The contractual right to service a loan. Servicing entails activities such as collecting principal and interest payments from the borrower, maintaining escrow accounts, paying taxes and insurance premiums when due, and pursuing collection of delinquent payments.

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ASC 805 Contract-Related Intangible Assets (cont.)

- Employment contract – The right to succeed the acquiree as the employer under a formal contract to obtain an employee's services in exchange for fulfilling the employer's remaining duties, such as payment of salaries and benefits, as specified by the contract.



ASC 805 Technology-Related Intangible Assets

- Examples of technology-based intangible assets:
 - Patented or copyrighted software – Computer software source code, program specifications, procedures, and associated documentation that are legally protected by patent or copyright.
 - Mask works – Software permanently stored on a read-only memory chip as a series of stencils or integrated circuitry. Mask works may be provided statutory protection in some countries.
 - Unpatented technology – Access to knowledge about the proprietary processes and workflows followed by the acquiree to accomplish desired business results.

ASC 805 Technology-Related Intangible Assets (cont.)

- Databases – Databases are collections of information generally stored digitally in an organized manner. A database can be protected by copyright. Many databases represent information accumulated as a natural by-product of a company conducting its normal operating activities. Examples of such databases include title plants, scientific data, and credit histories.
- Trade secrets – Trade secrets are proprietary, confidential information, such as a formula, process, or recipe.



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

Intangible Asset Cost Approach Valuation Components

- All cost approach methods include a current cost measurement and a depreciation measurement
- Four cost components
 - Direct costs (direct materials and direct labor)
 - Indirect costs (overhead and administrative expenses)
 - Developer's profit (on the direct and indirect costs)
 - Entrepreneurial incentive (opportunity cost—or lost income—during the replacement period)
- Three depreciation components
 - Physical depreciation (not a significant factor)
 - Functional/technological obsolescence (consider the intangible asset RUL)
 - Economic/external obsolescence (consider the intangible asset ROI)

Intangible Asset Cost Approach Valuation Components (cont.)

- Typical cost approach valuation formula

Replacement cost new
less Functional obsolescence
less Technological obsolescence
less Economic/external obsolescence
equals Fair Value

- Cost approach valuation considerations
 - All cost components (including opportunity cost) included in the measurement
 - Treatment of excess capital (development) costs and excess operating costs
 - Consideration of the intangible asset RUL
 - Consideration of owner/operator economic obsolescence



Intangible Asset Market Approach Valuation Components

- Valuation pricing metrics are based on either comparable or guideline
 - licenses of intangible assets
 - sales of intangible assets
 - companies that use intangible assets
- Valuation variables and procedures
 - Quantitative/qualitative analysis of the subject intangible asset
 - Guideline license/sale/company selection criteria
 - Guideline license/sale/company selection
 - Verification of the selected transactional data
 - Analysis of the selected transactional data
 - Selection of the appropriate pricing metrics
 - Selection of the pricing multiples specific to the subject intangible asset
 - Application of the selected pricing multiples to the subject intangible asset metrics



Intangible Asset Market Approach Valuation Components (cont.)

- Market approach valuation considerations
 - Seasoned guideline intangible asset/development stage subject intangible asset
 - Development stage guideline intangible asset/seasoned subject intangible asset
 - State of the competition in the owner/operator industry
 - Comparable profit margins—is the subject intangible asset the only reason for the difference in profit margins between the owner/operator company and the selected CPM companies?

Intangible Asset Income Approach Valuation Components

- Common intangible asset income concepts include:
 - incremental (or differential) owner/operator revenue
 - decremental owner/operator expense
 - decremental owner/operator investment
 - decremental risk to the owner/operator
- Common income measures (related to the subject intangible asset) include:
 - EBITDA
 - EBIT
 - NOI (EBITDA less income taxes)
 - Net income
 - Net cash flow

Intangible Asset Income Approach Valuation Components (cont.)

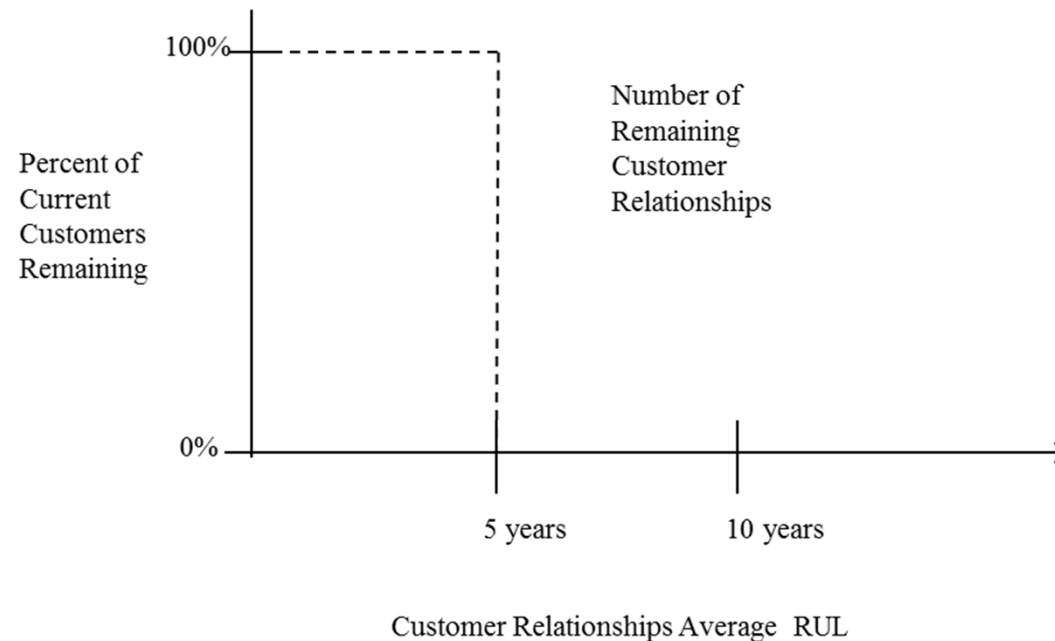
- Income approach valuation formula
 - Yield capitalization methods, based on a non-constant growth income projection
 - over a finite RUL projection period
 - over a finite RUL projection period with a terminal value
 - Direct capitalization methods, based on a constant growth income projection
 - over a finite RUL projection period
 - over a perpetuity projection period

Intangible Asset Income Approach Valuation Components (cont.)

- Income approach valuation considerations
 - Match the selected discount/capitalization rate with the selected income measure
 - Match the selected discount/capitalization rate with the subject intangible asset risk
 - Consider the state of the competition in the owner/operator industry
 - Consider all subsequent (to the valuation date) capx, R&D expenses, marketing expenditures, etc.
 - Analyze only the income that is directly related to the subject intangible asset
 - Present value the projected income over either:
 - the intangible asset average RUL
 - down the intangible asset RUL decay curve

Intangible Asset Income Approach Valuation Components (cont.)

Illustrative Example Present Value of Income Projection Over the Average Remaining Useful Life of Customer Relationships

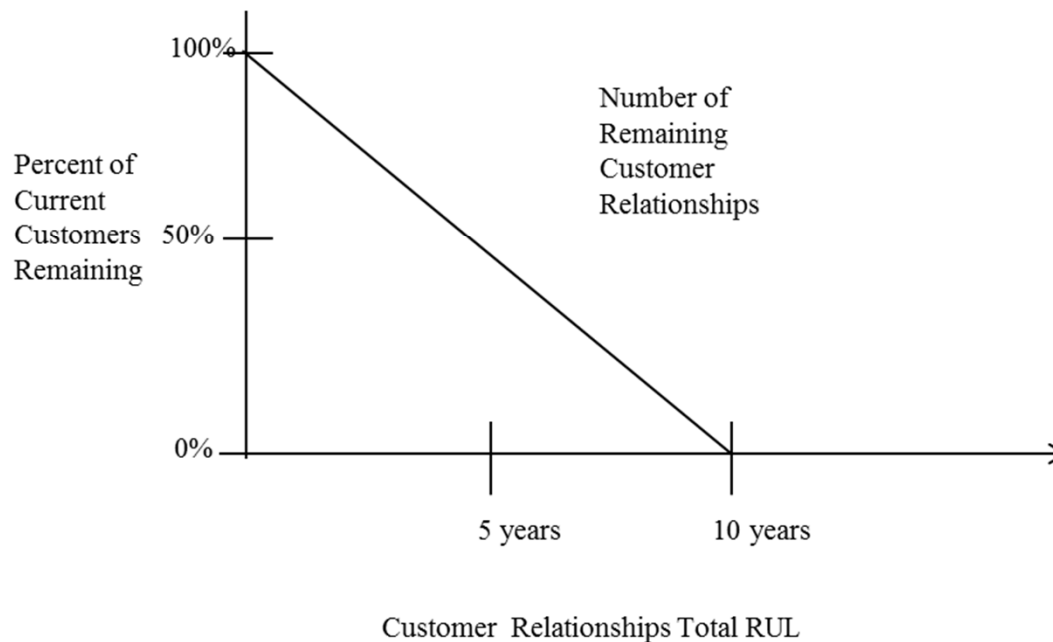


Assume: Customer Relationships Total Remaining Life of 10 Years
Customer Relationships Average Remaining Useful Life of 5 Years



Intangible Asset Income Approach Valuation Components (cont.)

Illustrative Example Present Value of Income Projection Down the Total Remaining Useful Life of Customer Relationships



Assume: Customer Relationships Total Remaining Life of 10 Years
Customer Relationship Average Remaining Useful Life of 5 Years



Intangible Asset Valuation Synthesis and Conclusion

- The synthesis and conclusion is the last procedure in the valuation process
- The analyst typically performs a valuation reconciliation procedure related to the alternative value indications
- The analyst answers the following questions:
 - Did I value the right thing? That is, did I analyze the correct intangible asset?
 - Did I value the right thing the right way? That is, did I apply the appropriate valuation approaches, methods, and procedures?
 - Did I reach the right value conclusion? That is, did I correctly apply the valuation procedures that I performed in order to reach a reasonable and supportable value estimate?
 - Did I do what I intended to do? That is, did I perform the assignment that I set out to perform? Did I achieve the purpose and objective of the assignment?



Intangible Asset Remaining Useful Life

- Remaining useful life (RUL) may influence each intangible asset valuation
- RUL is the period over which the intangible asset is expected to contribute (whether directly or indirectly) to the cash flow of the entity
- Factors to consider in estimating the intangible asset RUL include:
 - Legal, regulatory, or contractual provisions that may limit the maximum RUL
 - Legal, regulatory, or contractual provisions that may enable renewal or extension of the asset's legal or contractual life (provided there is evidence to support renewal or extension without substantial cost and without materially modifying the original terms)

Intangible Asset Remaining Useful Life (cont.)

- Factors to consider in estimating the intangible asset RUL include:
(cont.)
 - The effects of obsolescence, demand, competition, and other economic factors (such as the stability of the industry, the rate of technological change, expected changes in distribution channels, and the existence of uncertainty over future legal and/or regulatory changes)
 - The RUL of tangible assets or other groups of assets of the entity that the intangible asset RUL may parallel (such as mineral rights to depleting assets)
 - The expected use of the intangible asset by the owner/operator
 - The level of maintenance expenditures required to be made in order to obtain the expected future economic benefits from the intangible asset

Tax Amortization Benefit (TAB) Adjustment

- For federal income tax purposes, taxpayers may amortize a purchased intangible asset over the Internal Revenue Code Section 197 15-year period.
- In an income approach valuation method analysis:
 - the intangible asset value amortization expense is recognized as a non-cash expense before pretax income.
 - the amortization expense is added back as a non-cash expense after the income tax expense line.
 - alternatively, this incremental effect on value may be recognized by the use of a tax amortization benefit “factor”:

$$\text{Tax amortization benefit} = \frac{1}{\frac{1 - (\text{income tax rate} \times (\text{present value annuity factor}))}{\text{amortization period}}}$$



Tax Amortization Benefit (TAB) Adjustment (cont.)

- In the TAB formula:
 - income tax rate – is the tax rate used in the income projection
 - amortization period – always 15 years
 - PVAF – for 15 years at the present value discount rate used in the income approach analysis
- Illustrative TAB example variables:
 - Intangible asset income approach preliminary value indication
 - \$100,000,000
 - Owner/operator income tax rate – 40%
 - Present value discount rate – 20%

$$\text{Tax amortization benefit} = \frac{1}{\frac{1 - (40\% \times (4.6755))}{15 \text{ years}}}$$

Tax amortization benefit factor = 14%



Tax Amortization Benefit (TAB) Adjustment (cont.)

- Illustrative TAB example conclusion:

$$\$100,000,000 \times (1 + 14\%) = \$114,000,000$$

$$\text{Preliminary value} \times (1 + \text{TAB factor \%}) = \\ \text{Intangible asset fair value indication}$$

- Note: Not all acquired intangible assets are Section 197 amortizable intangible assets.



Cost Approach Illustrative Example

Computer Software Fair Value

Replacement Cost New Less Depreciation (RCNLD) Method

<u>Computer Software System</u>	<u>Estimated Software Development Effort—in Person Months</u>	<u>Elapsed Time to Develop Software—in Calendar Months</u>	<u>Full Absorption Cost per Person Month</u>	<u>Indicated RCNLD Method Component \$000</u>
AS/400	4,531	29	\$14,585	66,100
Point of Sale	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, 2 years lost income				<u>31,200</u>
Equals: Total replacement cost new				231,800
Less: Functional obsolescence				<u>36,900</u>
Equals: Subtotal				194,900
Less: Economic obsolescence, at 19%				<u>37,000</u>
Equals: Computer software RCNLD				<u>157,900</u>
Fair value of computer software (rounded)				<u>\$158,000</u>



Cost Approach Illustrative Example

Computer Software Fair Value

Computer Software Cost Approach Functional Obsolescence for Replacement Software Under Development

Computer Software System	RCN—Total Direct and Indirect Cost Components \$000	RCN—Developer's Profit and Entrepreneurial Incentive Cost Components	Total RCN Cost Components \$000	Software Percent Functional Obsolescence	Total Functional Obsolescence \$000
Unisys	17,900	34%	24,000	80%	19,200
Pioneer	26,400	34%	35,400	50%	<u>17,700</u>
Total					36,900

RCN = Replacement cost new



Cost Approach Illustrative Example

Computer Software Fair Value

Computer Software Cost Approach Economic Obsolescence

Owner/Operator <u>Financial and Operational Metrics</u>	<u>Average of 2008-2012</u>	<u>LTM 2013</u>	<u>Percent Difference</u>
EBIT profit margin	24%	20%	-16.7%
Net cash flow margin	12%	10%	-16.7%
Pre-tax net income margin	15%	12%	-20.0%
EBIT return on total assets	16%	14%	-12.5%
EBIT return on net assets	20%	16%	-20.0%
5-year compound revenue growth rate	6.5%	4.5%	-30.8%
5-year compound net cash flow growth rate	7.5%	5.5%	-26.7%
Average sales price per unit sold:	\$1,200	\$1,050	-12.5%
Mean percent decline in metrics			-19.5%
Median percent decline in metrics			-18.4%
Trimmed mean percent decline in metrics			<u>-18.8%</u>
Selected economic obsolescence indication			<u>-19%</u>



Income Approach Illustrative Example

Trade Secret Fair Value

Differential Income Method

Business Unit with the Trade Secret in Place
Projection Variables (\$ in 000s):

	Year 1	Year 2	Year 3	Year 4	Year 5
EBIT	22,037	24,240	26,665	29,331	32,264
– Income tax	<u>(7,933)</u>	<u>(8,727)</u>	<u>(9,599)</u>	<u>(10,559)</u>	<u>(11,615)</u>
= Operating income	14,104	15,514	17,065	18,772	20,649
+ Depreciation expense	1,469	1,616	1,778	1,955	2,151
– Capital expenditures	(1,469)	(1,616)	(1,778)	(1,955)	(2,151)
– Contributory asset capital charge	(2,200)	(2,200)	(2,200)	(2,200)	(2,200)
– NWC changes	<u>(696)</u>	<u>(735)</u>	<u>(808)</u>	<u>(889)</u>	<u>(978)</u>
= NCF	11,208	12,579	14,057	15,683	17,471
PV factor	<u>0.9325</u>	<u>0.8109</u>	<u>0.7051</u>	<u>0.6131</u>	<u>0.5332</u>
Discounted NCF	10,451	10,200	9,912	9,616	9,315
Sum of discounted NCF (rounded)	49,500				
Assumes trade secret RUL of 5 years					



Income Approach Illustrative Example

Trade Secret (cont.)

Differential Income Method

Business Unit Without the Trade Secret in Place
Projection Variables (\$ in 000s):

	Year 1	Year 2	Year 3	Year 4	Year 5
EBIT	19,172	21,089	23,198	25,518	28,070
– Income tax	<u>(6,902)</u>	<u>(7,592)</u>	<u>(8,351)</u>	<u>(9,186)</u>	<u>(10,105)</u>
= Operating income	12,270	13,497	14,847	16,331	17,965
+ Depreciation expense	1,322	1,454	1,600	1,760	1,936
– Capital expenditures	(1,322)	(1,454)	(1,600)	(1,760)	(1,936)
– Contributory asset capital charge	(2,200)	(2,200)	(2,200)	(2,200)	(2,200)
– NWC changes	<u>(876)</u>	<u>(926)</u>	<u>(1,018)</u>	<u>(1,120)</u>	<u>(1,232)</u>
= NCF	9,194	10,372	11,629	13,012	14,533
PV factor	<u>0.9259</u>	<u>0.7982</u>	<u>0.6881</u>	<u>0.5932</u>	<u>0.5114</u>
Discounted NCF	8,512	8,279	8,002	7,718	7,432
Sum of discounted NCF without trade secret	39,900				
Sum of discounted NCF with trade secret	<u>49,500</u>				
= Trade secret fair value	<u>9,600</u>				



Market Approach Illustrative Example

Drug Patent Fair Value

Selected Guideline License Agreements

License	Licensee	Licensor	License Start Date	License Term	Revenue Royalty %	Other Consideration	Type of Drug
1	Pfizer, Inc.	Columbia U.	2012	15	6	\$4m	ED
2	Glaxo Smith Kline	Autogen	2012	10	5	\$10m	cardiovascular
3	Johnson & Johnson	Nobel N.V.	2011	12	10	[a]	antiobesity
4	Merck & Co.	All Saints Hospital	2011	10	4.5		vascular
5	Pharmacia & Upjohn	MIT	2010	15	5.5		pulmonary hypertension
6	Wyeth-Ayerst	MD, LP	2010	20	8-10	[b]	botanical ED

[a] License entered into to settle infringement lawsuit.

[b] License entered into to settle joint venture lawsuit.



Market Approach Illustrative Example

Drug Patent Fair Value

Royalty Rate Adjustment Grid

License	Revenue Royalty %	How Comparable to Subject	Size of Market	Market Growth Rate	Relative Market Share	Other Consideration	Adjusted Revenue Royalty %
1	6	3	0	0	—	+0.5%	6%
2	5	2	++	++	0	+1%	7%
3	10	2	+	0	0	-2%	8%
4	4.5	3	+	0	-	-	4%
5	5.5	2	+	+	0	-	6%
6	8-10	3	++	-	-	-2%	7%
Mean Royalty Rate							6.3%
Trimmed Mean Royalty Rate							6.5%
Median Royalty Rate							6.5%
Mode Royalty Rate							<u>6.5%</u>
Selected License Royalty Rate							<u>6.5%</u>



Market Approach Illustrative Example

Drug Patent Fair Value

Relief from Royalty Method

Valuation Analysis (in \$ millions) [a]	Projection Period (Based on Expected RUL)								
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Revenue growth rate	10%	10%	10%	0%	0%	0%	-12%	-12%	-12%
Product revenue [b]	440	484	532	532	532	532	469	412	363
× License royalty rate	<u>6.5%</u>	<u>6.5%</u>	<u>6.5%</u>	<u>6.5%</u>	<u>6.5%</u>	<u>6.5%</u>	<u>6.5%</u>	<u>6.5%</u>	<u>6.5%</u>
= Royalty expense	29	31	35	35	35	35	30	27	24
– Maintenance expense	<u>10</u>	<u>11</u>	<u>11</u>	<u>11</u>	<u>12</u>	<u>12</u>	<u>12</u>	<u>13</u>	<u>13</u>
= Net license expense	19	20	24	24	23	23	18	14	11
PV factor	.9091	.7576	.6313	.5261	.4384	.3653	.3045	.2537	.2114
PV net license expense	17	15	15	13	10	9	5	4	2
PV net license expense	<u>90</u>								
Drug patent fair value	<u>90</u>								

[a] Assumes drug patent RUL of 9 years.

[b] Assumes last year revenue of \$400 million.



Intangible Asset Data Gathering and Due Diligence

- The analyst typically gathers and analyzes information related to the current intangible asset owner/operator.
- Such information typically includes the following:
 - owner/operator historical and prospective financial statements
 - owner/operator historical and prospective development/maintenance costs
 - owner/operator current and expected resource/capacity constraints
 - description and estimate of the intangible asset economic benefits to the current owner/operator
 - associated revenue increase (e.g., related product unit price/volume, market size/position)
 - associated expense decrease (e.g., expense related to product returns, COGS, SGA, R&D)
 - associated investment decrease (e.g., inventory, capital expenditures)
 - associated risk decrease (existence of intangible asset contracts, decrease of cost of capital components)
 - assessment of intangible asset impact on owner/operator strategic position: SWOT – strengths, weaknesses, opportunities, and threats

Intangible Asset Market Potential Considerations

- The analyst may consider the intangible asset market potential outside of the current owner/operator.
- The analyst may consider the following factors:
 - change in the market definition or the market size for an alternative owner/user
 - change in alternative/competitive uses to an alternative owner/user
 - the intangible asset ability to create inbound/outbound license opportunities to an alternative owner/user
 - whether the current owner can (1) operate the intangible asset and also (2) outbound license the intangible asset (in different products, different markets, different territories, etc.)

Review of Intangible Asset Financial Projections

- The analyst may review and challenge (1) any owner/operator-prepared financial projections and (2) any owner/operator-prepared measures of intangible asset economic benefits.
- The analyst may perform the following benchmark analyses:
 - compare managements prior projections to prior actual results of operations
 - compare managements projections to current capacity constraints
 - compare managements projections to the current total market size
 - consider published industry average comparable profit margin (CPM) data
 - consider guideline publicly traded company CPM data
 - consider the quality and quantity of available license data
 - perform RUL analysis, with consideration of:
 - legal/statutory life
 - contract/license life
 - technology obsolescence life
 - economic obsolescence life
 - lives of prior generations of the intangible asset
 - position of the intangible asset in its life cycle



Due Diligence—Financial Projection Ratios Benchmark Analysis Industry Data Sources

- The Risk Management Association – *Annual Statement Studies: Financial Ratio Benchmarks*
- BizMiner (The Brandow Company) – *Industry Financial Profiles*
- CCH, Inc. – *Almanac of Business and Industrial Ratios*
- Fintel, LLC – *Fintel Industry Metrics Reports*
- MicroBilt Corporation (formerly IntegraInfo) – *Integra Financial Benchmarking Data*
- ValueSource – *IRS Corporate Ratios*
- Schonfeld & Associates, Inc. – *IRS Corporate Financial Ratios*

Guideline Company Profit Margins Benchmark Analysis Company Data Sources

- FactSet Research Systems, Inc.—FactSet
- Hoover's, Inc.—Hoover's Company Records
- Mergent, Inc.—MergentOnline
- Morningstar, Inc.—Morningstar Equity Research
- Standard & Poor's—CapitalIQ
- Thomson Reuters—Thomson ONE Analytics

The Effective Intangible Asset Valuation Report

- In order to encourage the reader's acceptance, the effective intangible asset valuation report should be:
 - clear, convincing, and cogent
 - well-organized, well-written, and well-presented
 - free of grammar, punctuation, spelling, and mathematical errors
 - procedurally and mathematically replicable, without the use of any unexplained or unsourced valuation variables
- The persuasive intangible asset valuation report will tell a narrative story that:
 - defines the valuation analyst's assignment,
 - describes the analyst's data gathering and due diligence procedures,
 - justifies the analyst's selection of (and rejection of) the generally accepted valuation approaches, methods, and procedures,
 - explains how the analyst performed the valuation synthesis and reached the final value conclusion,
 - defends the analyst's intangible asset value conclusion, and
 - describes all of the data sources that the analyst relied on (and includes copies of non-public source documents)



Effective Intangible Asset Valuation Report Attributes

- An effective intangible asset valuation report will encompass the following considerations:
 - Thoroughness
 - Objectivity
 - Understandability
 - Specificity
 - Coherence
 - Documentation
 - Full disclosure
 - Composition
 - Professional standards
 - Litigation standards

Intangible Asset Valuation Report Errors to Avoid

- An effective intangible asset valuation report will avoid these common errors:
 - Failure to apply the defined standard of value
 - Failure to apply the defined premise of value
 - Analytical internal inconsistencies
 - Arithmetic errors in the valuation analysis
 - Insufficient support for the selected valuation variables
 - Reliance on industry or other rules of thumb
 - Insufficient data and inadequate market research
 - Inadequate due diligence procedures

Fair Value of Intangible Assets

Summary and Conclusion

- In the intangible asset fair value valuation, the analyst should:
 - Understand the valuation assignment
 - Understand the subject intangible asset and the subject bundle of legal/ownership rights
 - Collect sufficient intangible asset owner/operator financial data
 - Collect sufficient owner/operator industry, market, competitive data
 - Document the specific intangible asset economic benefits
 - Perform adequate due diligence procedures on all available data
 - Select and apply all appropriate income, market, and cost approach valuation methods
 - Reconcile all value indications into a final fair value conclusion
 - Defend the fair value analysis conclusion in a replicable and well-documented valuation report
- Questions and discussion

Challenges in Measuring the Fair Value of Intangible Assets

Business Valuation Resources Webinar
Tuesday, March 4, 2014
1:00 pm – 2:40 pm EST

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