# Practical Application of Intangible Asset Valuation Approaches and Methods

Valuation Products and Services Webinar
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# Discussion Outline

This discussion will encompass the following topics:

- Identification of intangible assets and intellectual property
- Understanding the valuation assignment
- Analyst data gathering and due diligence procedures
- Generally accepted valuation approaches and methods
- Valuation synthesis and conclusion procedures
- Cost approach illustrative example
- Income approach illustrative example
- Market approach illustrative example
- Reporting and defending the value conclusion

# Robert F. Reilly, CPA

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 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 intellectual property 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, and certified valuation analyst.

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* (published in 2013 by the AICPA) and *Practical Guide to Bankruptcy Valuation* (published in 2013 by the American Bankruptcy Institute).

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# 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 provide 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

# The Four Categories of Business Assets

- From a valuation perspective, all business assets can be grouped into one of these four categories:

| | Realty Assets | Personalty Assets |
|---|---|---|
| Tangible Assets | Tangible Real Estate | Tangible Personal Property |
| Intangible Assets | Intangible Real Property | Intangible Personal Property |

# Examples of the Four Categories of Business Assets

| | Realty Assets | Personalty Assets |
|---|---|---|
| Tangible Assets | land<br>land improvements<br>building components<br>building structures | machinery and equipment<br>trucks and autos<br>computers<br>office equipment |
| Intangible Assets | leaseholds [a]<br>easements and rights of way<br>mining and mineral rights<br>air and water rights | financial assets [b]<br>general intangible assets<br>intellectual property<br>goodwill intangible value |

[a] leasehold improvements are considered intangible assets for GAAP purposes but tangible assets for many other purposes

[b] financial assets are excluded from intangible assets for GAAP purposes but included for many other purposes

# Identifiable Intangible Assets
# ASC Topic 805 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.

# Identifiable Intangible Assets
# ASC Topic 805 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.

  Intangible Assets

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

# ASC Topic 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
- According to ASC 805, goodwill is also an intangible asset, although it is not an identifiable intangible asset

# ASC 805 Marketing-Related Intangible Assets

- Examples of marketing-related intangible assets:
  - Newspaper mastheads
  - Trademarks, service marks, trade names, collective marks, certification marks
  - Trade dress
  - Internet domain name
  - Noncompetition agreements

# ASC 805 Customer-Related Intangible Assets

- Examples of customer-related intangible assets:
  - Customer lists
  - Customer contracts and related customer relationships
  - Noncontractual customer relationships
  - Order or production backlogs

# ASC 805 Artistic-Related Intangible Assets

- Examples of artistic-related intangible assets:
  - Plays, operas, ballets
  - Books, magazines, newspaper, and other literary works
  - Musical works such as composition, 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
  - Advertising contracts
  - Lease agreements
  - Construction permits
  - Construction contracts
  - Construction management, service, or supply contracts
  - Broadcast rights
  - Franchise rights
  - Operating rights
  - Use rights
  - Servicing contracts
  - Employment contracts

# ASC 805 Technology-Related Intangible Assets

- Examples of technology-based intangible assets:
  - Patented or copyrighted software
  - Mask works
  - Unpatented technology
  - Databases
  - Trade secrets

# Internal Revenue Code Section 197 List of Intangible Assets

- The term “section 197 intangible” means:
  - goodwill,
  - going concern value,
  - any of the following:
    - workforce in place,
    - business books and records, operating systems, or any other information base,
    - 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 government agency,
  - any covenant not to compete
  - any franchise, trademark, or trade name.

# Intellectual Property

- Intellectual property assets represent a small subset of general intangible assets
- Intellectual property includes the following four intangible assets only:
  - Patents
  - Copyrights
  - Trademarks
  - Trade secrets

# Patents and Related Intangible Assets

- Common types of patents
  - Utility patents
  - Design patents
  - Plant patents
  - Process/method patents
- Related intangible assets
  - Technology sharing agreements
  - Unpatented proprietary technology
  - Technology development rights
  - Engineering drawings and designs
  - Schematics and technical documentation
  - Regulatory approvals and licenses (e.g., FDA approvals, OSHA approvals)

# Trademarks and Related Intangible Assets

- Related intellectual property
  - Trade names
  - Logos
  - Service marks
  - Service names
  - Trade dress
- Related intangible assets
  - Brands
  - Advertising programs
  - Brochures and marketing materials
  - Name-related goodwill

# Copyrights and Related Intangible Assets

- Copyrights are available for:
  - Literary works
  - Musical works
  - Dramatic works
  - Pantomimes and choreographed works
  - Pictorial, graphic, or sculptural works
  - Motion pictures and audiovisual works
  - Sound recordings
  - Architectural works
  - Computer software (object code and source code)

# Copyrights and Related Intangible Assets (cont.)

- Related intangible assets
  - Engineering drawings
  - Blueprints
  - Manuals and procedures
  - Training films

# Trade Secrets and Related Intangible Assets

- Trade secret intellectual property
  - Customer information
  - Books and records
  - Product/formulas and recipes
  - Procedures and know-how
  - Pricing and cost information
  - Accounting documentation
- Related intangible assets
  - Employee training materials
  - Process flow charts
  - Plant diagrams and schematics
  - Financial plans and projections

# 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

# Categories of Intangible Asset Analyses

- Valuation
  - fair value valuation (for GAAP compliance)
  - fair market value valuation
  - transaction valuation
- Transfer price analysis
  - intercompany transfer price (for IRC compliance)
  - arm's-length license agreement
- Economic damages analysis
  - lost profits
  - reasonable royalty rate
  - other measures (e.g., unjust enrichment)

# Defining the Intangible Asset Valuation Assignment

- There are two components to the intangible asset valuation assignment:
  - The objective of the analysis
  - The purpose of the analysis

# The Objective of the Analysis

- The objective of the analysis describes what the valuation is intended to do
- The objective of the analysis describes the following:
  - The specific intangible asset that is the subject of the valuation
  - The ownership interest (or bundle of legal rights) that is the subject of the valuation
  - The standard and premise of value (or definition of value) being estimated
  - The “as of” valuation date

# The Purpose of the Valuation Analysis

- The purpose of the analysis describes:
  - The audience of the intangible asset valuation (i.e., the party or parties who will rely on the analysis and conclusion)
  - The decision (if any) that will be influenced by the analysis results
- The purpose of the analysis indicates the following:
  - Why the intangible asset valuation is being performed
  - The intended use(s) of the intangible asset valuation
  - Who is expected (and permitted to) rely on the results of the intangible asset valuation

# Selecting the Appropriate Standard of Value

- Alternative intangible asset standards of value include:
  - Fair market value
  - Fair value – financial accounting
  - Fair value – statutory proceedings
  - Market value
  - Acquisition value
  - Use/user value
  - Investment/investor value
  - Owner value
  - Insurable value
  - Collateral value
  - Reasonably equivalent value
  - Arm's-length price

# Selecting the Appropriate Premise of Value

- The premise of value is often selected based on a highest and best use (HABU) analysis
- Alternative intangible asset premises of value include:
  - Value is continued use, as part of a going concern
  - Value in place, but not in use
  - Value in exchange, as part of an orderly disposition
  - Value in exchange, as part of a voluntary liquidation
  - Value in exchange, as part of an involuntary liquidation

# Premise of Value Considerations

- The analyst often selects the appropriate premise based on the following criteria:
  - The purpose and objective of the valuation; that is, what premise of value makes the most sense, given the stated purpose and objective of the valuation?
  - The actual functional and economic status of the intangible asset; that is, under what premise of value is the intangible asset actually operating?
  - The HABU of the intangible asset; that is, what premise of value (or what marketplace) would conclude the greatest estimated value for the intangible asset if it was actually offered for sale?

# Intangible Asset Bundles of Legal Rights

- The analyst should consider what bundle of legal rights is encompassed in the intangible asset valuation
  - Fee simple interest
  - Life interest or estate
  - Term interest or estate
  - Licensor/franchisor interest
  - Licensee/franchisee interest
  - Sublicensee interest
  - Reversionary interest
  - Development rights
  - Exploitation rights
  - Use rights
  - Other contractual rights

# Intangible Asset Analysis Assignment

- The analyst should consider the type of opinion that the client needs:
  - Valuation opinion
  - Fairness opinion
  - Solvency opinion
  - Private inurement opinion
  - Economic damages opinion
  - Transfer price opinion
  - License royalty rate opinion
  - Exchange ratio opinion

# 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

# Intangible Asset Data Gathering and Due Diligence (cont.)

- 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 licenses/contracts, decrease of cost of capital components)
  - assessment of the intangible asset impact on the 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 owner/operator prior projections to prior actual results of operations
  - compare owner/operator projections to current capacity constraints
  - compare owner/operator 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 remaining useful life (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

# 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 | Value indication |

- 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 assets metrics

# Intangible Asset Market Approach Valuation Components (cont.)

- Market approach valuation considerations
  - Seasoned guideline intangible assets/development stage subject intangible asset
  - Development stage guideline intangible assets/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?

# Common Royalty Rate Databases

- **ktMINE**

  ktMINE is an interactive intellectual property database that provides direct access to license royalty rates, actual license agreements, and detailed agreement summaries. The database contains over 12,000 intellectual property license agreements. The intellectual property license database is updated frequently. License agreements are searchable by industry, keyword, and various other parameters. The full text of each intellectual property license agreement is available. Available at www.bvmarketdata.com.

# Common Royalty Rate Databases (cont.)

- **Royalty Connection**

  Royalty Connection™ provides online access to intellectual property license royalty rate and other license information on all types of technology, patents, trade secrets, and know-how. The data are aggregated from arm's-length sale/license transactions, litigation settlements, and court-awarded royalty order from 1990 to the present. The intellectual property license database is frequently updated. Users can search by industry, product category, or keyword. The information provided includes the consideration paid for the intellectual property license and any restrictions (such as geographic or exclusivity). Available at www.royaltyconnection.com.

# Common Royalty Rate Databases (cont.)

- **RoyaltySource**

  AUS Consultants offers a database that provides intellectual property license transaction royalty rates. The database can be searched by industry, technology, and/or keyword. The information provided includes the license royalty rates, name of the licensee and the licensor, a description of the intellectual property licensed (or sold, if applicable), the transaction terms, and the original sources of the information provided. Preliminary results are available online and a final report is sent to the subscriber via email. Available at www.royaltysource.com.

# Common Royalty Rate Databases (cont.)

- **RoyaltyStat, LLC**

  RoyaltyStat is a subscription-based database of intellectual property license royalty rates and license agreements, compiled from Securities and Exchange Commission documents. It is searched by SIC code or by full text. The results can be viewed online or archived. The intellectual property transaction database is updated daily. The full text of each intellectual property license agreement in the database is available. Available at www.royaltystat.com.

# Common Royalty Rate Publications

- **Licensing Economic Review**

  AUS Consultants publishes this monthly newsletter, which contains license royalty rates on selected recent intellectual property transactions. The December issue each year also contains an annual summary of intellectual property license royalty rates by industry.

- **License Royalty Rates**

  Gregory J. Battersby and Charles W. Grimes author this annual book, which is published by Aspen Publishers. This reference tool provides intellectual property license royalty rates for 1,500 products and services in 10 different licensed product categories: art, celebrity, character/entertainment, collegiate, corporate, designer event, music, nonprofit, and sports.

# Common Royalty Rate Publications (cont.)

- **Intellectual Property Research Associates**

  Intellectual Property Research Associates publishes three books that contain information on license royalty rates for patents, trademarks, and copyrights. The books are *Royalty Rates for Trademarks & Copyrights*, *Royalty Rates for Technology*, and *Royalty Rates for Pharmaceuticals & Biotechnology*. These books are updated periodically.

# 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.)

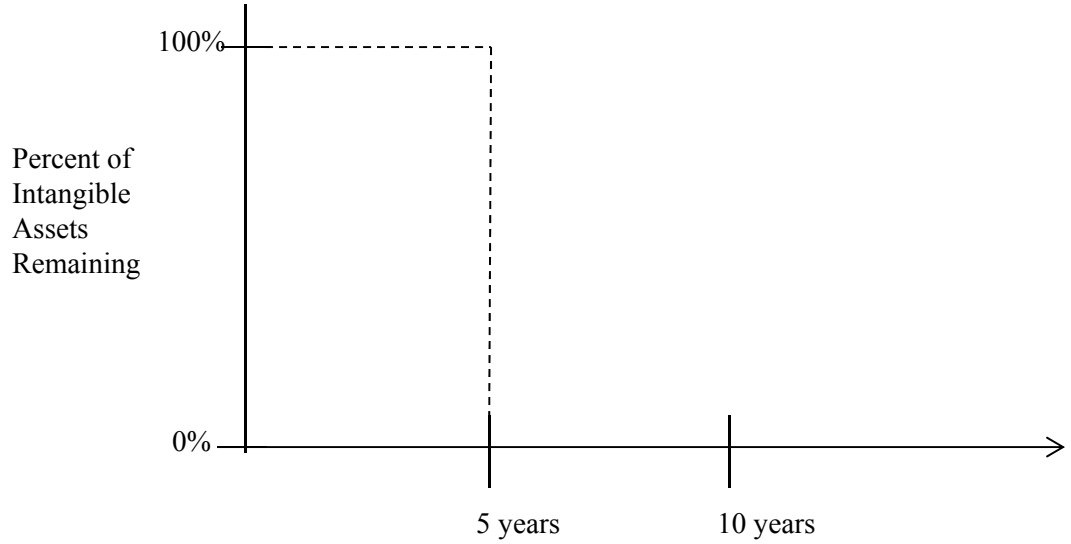
- Income approach valuation formula
  - Yield capitalization methods, based on a nonconstant growth income projection
    - over a finite RUL projection period
    - over a finite RUL projection period with a terminal value
  - Direct capitalization methods, based on a constant growth income projection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

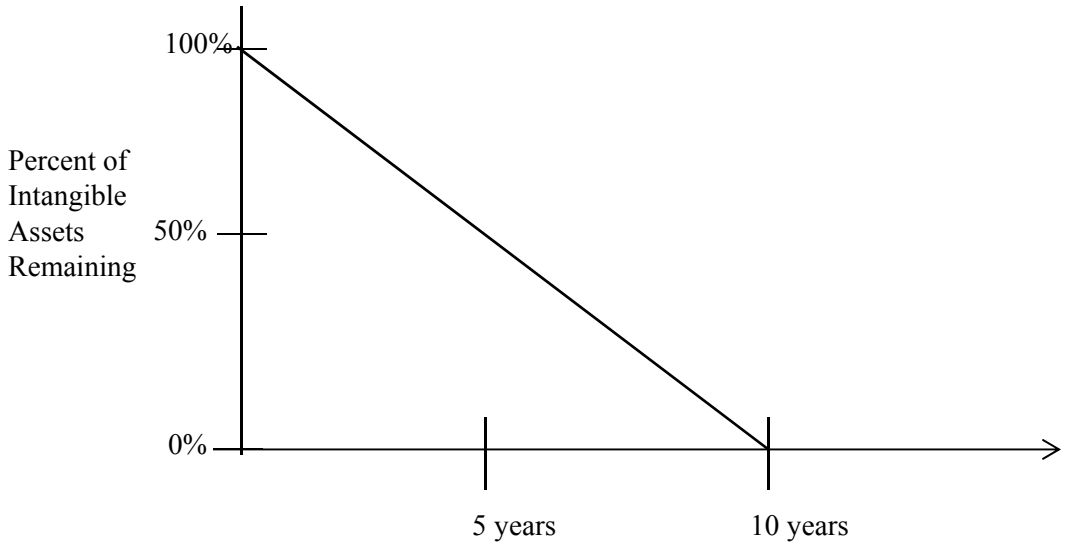
**Illustrative Example**
**Present Value of Income Projection**
**Over the Intangible Asset Average Remaining Useful Life**




Assume: Intangible Asset Total Remaining Life of 10 Years
Intangible Asset Average RUL of 5 Years

# Intangible Asset Income Approach Valuation Components (cont.)

**Illustrative Example**
**Present Value of Income Projection**
**Down the Intangible Asset Total Remaining Useful Life**




Assume: Intangible Asset Total Remaining Life of 10 Years
Intangible Asset Average RUL of 5 Years

# Income Approach—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":

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

# Income Approach—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%

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

Tax amortization benefit factor = 1.1424
(or an approximately 14% TAB value increment)

# Income Approach—Tax Amortization Benefit (TAB) Adjustment (cont.)

- Illustrative TAB example conclusion:

$$\$100,000,000 \times 1.1424 = \$114,000,000 \text{ (rounded)}$$

Preliminary value × TAB factor =
Intangible asset value indication

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

# Intangible Asset Valuation
# Synthesis and Conclusion Questions

- The synthesis and conclusion is the last procedure in the valuation process
- The analyst typically performs a procedure that is referred to as the valuation reconciliation
- The analyst typically 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 valuation 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?

# Cost Approach Illustrative Example
# Computer Software Copyright and Trade Secret

**Replacement Cost New Less Depreciation (RCNLD) Method**

| Computer Software System | Estimated Software Development Development Effort—in Person Months | Elapsed Time to Develop Replacement Software—in Calendar Months | Full Absorption Cost per Person Month | Indicated RCNLD Method Component $000 |
|---|---|---|---|---|
| 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 | 85 | 9 | 14,585 | 1,200 |
| Total direct and indirect costs component (rounded) | 11,856 | 24 | | 172,900 |
| Plus: Developer's profit, at 16% | | | | 27,700 |
| Subtotal | | | | 200,600 |
| Plus: Entrepreneurial incentive, 2 years of lost income | | | | 31,200 |
| Equals: Total replacement cost new | | | | 231,800 |
| Less: Functional obsolescence | | | | 36,900 |
| Equals: Subtotal | | | | 194,900 |
| Less: Economic obsolescence, at 19% | | | | 37,000 |
| Equals: Computer software RCNLD | | | | 157,900 |
| Value of computer software copyright and trade secret (rounded) | | | | $158,000 |

# Cost Approach Illustrative Example
# Computer Software Copyright and Trade Secret

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% | 17,700 |
| Total | | | | | 36,900 |

RCN = Replacement cost new

# Cost Approach Illustrative Example
# Computer Software Copyright and Trade Secret

Computer Software
Cost Approach Economic Obsolescence

| Owner/Operator<br>Financial and Operational Metrics | Average of<br>2008-2012 | LTM<br>2013 | Percent<br>Difference |
|---|---|---|---|
| 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 | | | -18.8% |
| Selected economic obsolescence indication as of 12/31/13 | | | -19% |

# Income Approach Illustrative Example Proprietary Process Trade Secret

**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 | (7,933) | (8,727) | (9,599) | (10,559) | (11,615) |
| = | 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 | (696) | (735) | (808) | (889) | (978) |
| = | NCF | 11,208 | 12,579 | 14,057 | 15,683 | 17,471 |
| | PV factor | 0.9325 | 0.8109 | 0.7051 | 0.6131 | 0.5332 |
| | Discounted NCF | 10,451 | 10,200 | 9,912 | 9,616 | 9,315 |
| | Sum of discounted NCF (rounded) | 49,500 | | | | |
| | Assumes a trade secret RUL of 5 years | | | | | |

# Income Approach Illustrative Example Proprietary Process 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 | (6,902) | (7,592) | (8,351) | (9,186) | (10,105) |
| = 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 | (876) | (926) | (1,018) | (1,120) | (1,232) |
| = NCF | 9,194 | 10,372 | 11,629 | 13,012 | 14,533 |
| PV factor | 0.9259 | 0.7982 | 0.6881 | 0.5932 | 0.5114 |
| 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 | 49,500 | | | | |
| = Trade secret value | 9,600 | | | | |

# Market Approach Illustrative Example Pharmaceutical Drug Patent

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 | | 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 | | botanical ED |

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

# Market Approach Illustrative Example Pharmaceutical Drug Patent (cont.)

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 | — | +.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 | | | 6.5% |
| | | | | Selected License Royalty Rate | | | 6.5% |

# Market Approach Illustrative Example Pharmaceutical Drug Patent (cont.)

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 | 6.5% | 6.5% | 6.5% | 6.5% | 6.5% | 6.5% | 6.5% | 6.5% | 6.5% |
| = Royalty expense | 29 | 31 | 35 | 35 | 35 | 35 | 30 | 27 | 24 |
| Maintenance expense | 10 | 11 | 11 | 11 | 12 | 12 | 12 | 13 | 13 |
| = 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 | 90 | | | | | | | | |
| Drug patent value | 90 | | | | | | | | |

[a] Assumes a drug patent RUL of 9 years.
[b] Assumes last year revenue of $400 million.

# Attributes of an 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)

# 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

# Attributes of an Effective Intangible Asset Valuation Expert Witness

- Clients (and especially legal counsel) look for the following attributes in a valuation expert witness:
  - Experience in valuations of the subject intangible asset type
  - Experience in valuations in the subject industry
  - Experience in valuations for the subject legal issues
  - Relevant professional credentials
  - Familiarity with the relevant professional literature
  - Familiarity with the relevant professional standards
  - Ability to communicate effectively, both orally and in writing
  - Ability to work cohesively, as part of the litigation team
  - Experience as an expert witness (may or may not be important)
  - Prior client references
  - Lack of contradictory reports or testimony in prior cases
  - Professional writings on subject consistent with testimony

# Summary and Conclusion

- Types of properties that qualify as intangible assets
- Types of intangible assets and intellectual property
- Types of intangible asset analyses
- Reasons to conduct the intangible asset valuation
- Elements of the intangible asset valuation
- Illustrative cost approach valuation analysis
- Illustrative income approach valuation analysis
- Illustrative market approach valuation analysis
- Valuation synthesis and conclusion considerations
- Reporting and defending the results of the intangible asset valuation