



Differences Between a Business Valuation and an Intangible Asset Valuation

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Robert's practice focuses on the valuation of businesses, securities, and intangible assets (including intellectual property) for transaction, financing, taxation, accounting, controversy, and other purposes.

Robert is a certified public accountant, chartered global management accountant, certified management accountant, chartered financial analyst, enrolled agent, and accredited tax advisor. He is accredited in business valuation and certified in financial forensics. He is a certified business appraiser, certified valuation analyst, certified valuation consultant, certified review appraiser, certified real estate appraiser, accredited senior appraiser, and state-certified general appraiser (in several states).

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. He has chaired the AICPA annual business valuation conference. And, he has twice received the AICPA "volunteer of the year" award.

Robert has co-authored 12 valuation textbooks including *Guide to Intangible Asset Valuation* (revised edition published by the AICPA in 2014) and the *Practical Guide to Bankruptcy Valuation* (published in 2008). He has authored numerous book chapters, including several chapters in the recently published Institute of Professionals in Taxation (IPT) text *Property Taxation*, 4th edition. He has authored over 300 articles that were published in various accounting, taxation, or valuation journals. Robert has served as an editor or editorial referee for numerous professional journals. Robert currently serves on the editorial boards for *Valuation Strategies*, *The American Bankruptcy Institute Journal*, *Construction Accounting and Taxation*, and *Financial Valuation and Litigation Expert*.

Discussion Outline

- Valuation purpose and objective considerations
- Types of analyses and types of opinions
- Premise of value: highest and best use
- Generally accepted business valuation approaches
- Generally accepted intangible asset valuation approaches
- Income approach analysis differences
- Market approach analysis differences
- Cost approach analysis differences
- Summary and conclusion

Valuation Purpose and Objective Considerations

- What is the valuation subject?
- What is the valuation date?
- What is the standard of value?
- What is the premise of value?
- What is the level of value?

The Valuation Subject

1. Alternative business valuation subjects

- Total company assets
- Total company invested capital (business enterprise)
- Total company debt
- Individual debt instruments
- Total company equity
- Total common equity or preferred equity
- One category of equity
- One block of equity securities
- Equity options, warrants, grants, rights

The Valuation Subject (cont.)

2. Business valuation level of value adjustments

- Why valuation adjustments are made
- Control adjustments
- Marketability adjustments

3. Business valuation contractual considerations

- Rights of the security class: voting, distribution, liquidation
- Security owner agreement restrictions: buy/sell, ROFR, transferability
- Company agreement restrictions: articles of incorporation, partnership/LLC/FLP agreements
- State statutory rights of security ownership: dissenter rights, supermajority actions

The Valuation Subject

■ Alternative intangible asset valuation subjects

- Identifiable intangible assets
- Intellectual property
- Company goodwill
- Company owner goodwill

■ Intangible asset level of value adjustments

- Why valuation adjustments are typically not made
- Control adjustments usually not appropriate
- Marketability adjustments usually not appropriate

The Valuation Subject (cont.)

■ Intangible asset contractual considerations

- Many intangible assets are subject to license, development, commercialization, and other agreements
- Consider these contract provisions
 - Term
 - Relative legal ownership
 - Legal rights – claims or benefits
 - legal obligations – future responsibilities
- Consider statutory provisions regarding IA ownership

Examples of Intangible Assets: FASB 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: FASB ASC 805 (cont.)

■ 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: FASB ASC 805 (cont.)

■ 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: FASB ASC 805 (cont.)

■ 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: Internal Revenue Code Section 197

■ 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
- Any other similar item

Examples of Intangible Assets: Internal Revenue Code Section 197 (cont.)

- Any license, permit, or other right granted by a governmental unit or an agency or instrumentality thereof
- 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., Sections 482 and 936) include other lists of intangible assets

Types of Intellectual Property (IP)

- An IP is an intangible asset that enjoys special legal recognition and legal protection.
- The IP special legal status comes from either federal or state statutes.
- There are four types of IP:
 - Patents
 - Copyrights
 - Trademarks
 - Trade secrets
- Often, there are other intangible assets associated with the subject IP.
- IP assets are a specific subset of intangible assets.

Differences between Intellectual Property and Other Intangible Assets

■ IP assets are created under and protected by specific federal or state statutes

- Often, IP assets are registered with the USPTO or USCO
- There is a substantial body of judicial precedent with regard to IP infringement and other types of litigation
- Analysts can consider this judicial guidance with regard to valuation and damages methodology
- IP assets are routinely licensed—and sometimes separately sold—in arm's-length transactions
- Analysts can rely on these comparable uncontrolled transaction (CUT) license royalty rate and sale price data

Differences between Intellectual Property and Other Intangible Assets (cont.)

- Other intangible assets are either operated by the current owner or sold to a new owner. IP can be both operated by the current owner and licensed to a noncompeting operator.
- Therefore, the HABU of an IP may be both value in use and value in exchange.
- IP assets can generate both operating income and royalty income.
- It is often easier to identify incremental or differential income metrics related to IP

Differences between Intellectual Property and Other Intangible Assets (cont.)

- It is often easier to apply market approach valuation methods to IP
- Owner/operators often maintain development cost data with regard to IP—so it is easier to apply cost approach valuation methods to IP assets
- Owner/operators do a better job at documenting the existence of (and protection of) their IP

Types of Patents

- **Design patent** – new, original, or ornamental design for an article of manufacture; the term is 15 years from date of the patent grant
- **Utility patent** – covers the following inventions: a process, a machine, a manufacture, or a composition of matter; the term is 20 years from date of patent application filing; in certain instances, a one-time extension of 5 years may be granted

Types of Patents (cont.)

- **Plant patent – for invention or discovery of a new and distinct variety of asexually reproduced plant; the term is 20 years from date of patent application filing**
- **Inventor applies to—and patent is granted by—the USPTO**
- **Protected by U.S. Patent Act, Title 35 United States Code**
- **Patent requirements: useful, novel, nonobvious**

The Subject Ownership Interest

■ Business valuation

- Typically, the subject is a fee simple interest in the subject company assets or securities
- The analyst may consider term/reversionary interests in gift or estate tax valuations

■ Intangible asset valuation

- The subject may be a fee simple interest
- The subject may also be a subset bundle of legal rights
 - Term interest
 - Territory interest
 - Licensor/licensee interests
 - Use versus ownership rights
 - Product line rights
 - Rights to current version only
 - Rights to development
 - Rights to commercialization

The Standard of Value and the Premise of Value

■ Standard of value issues

- Typically the same standards of value apply to a business valuation and to an intangible asset valuation
- Intangible asset valuations also include the arm's-length price (ALP) standard that is appropriate for many intercompany transfer purposes

The Standard of Value and the Premise of Value (cont.)

■ Premise of value issues

- Typically, a business valuation assumes a going-concern value in continued use premise of value
- Intangible asset valuations typically involve the analyst's "highest and best use" (HABU) conclusion with regard to the premise of value:
 - Value in continued use
 - Value in place (but not in current use)
 - Value in exchange—orderly disposition
 - Value in exchange—voluntary liquidation
 - Value in exchange—involuntary liquidation

The Standard of Value and the Premise of Value (cont.)

- For many IP assets, the analyst may conclude a HABU of both value in use (in current operations) and value in exchange (as a license for noncompetitive issues)

Types of Analyses and Opinions

■ The analyst may provide these opinions for both business valuations and intangible asset valuations:

- Valuation opinions
- Fairness opinions
- Solvency opinions
- Exchange ratio opinions
- Reasonably equivalent value opinions
- Damages analyses
- Transfer price analyses

■ In addition, the analyst may provide these opinions related to intangible asset analyses:

- Reasonable royalty rate opinions
- Arm's-length price (ALP) opinions
- Remaining useful life (RUL) opinions

Generally Accepted Business Valuation Approaches and Methods

■ Income approach methods

- Yield capitalization methods
- Direct capitalization methods

■ Market approach methods

- Guideline publicly traded company method
- Guideline merged and acquired company (transaction) method
- Backsolve method

■ Asset-based approach methods

- Asset accumulation method
- Adjusted net asset value method (using the capitalized excess earnings method)

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 (RFR) method
- Comparable uncontrolled transactions (CUT) method
- Comparable profit margin (CPM) method

■ Income approach methods

- Differential income (with/without) method
- Incremental income (before/after method)
- Profit split (or residual profit split) method
- Residual (or excess) income method

The Cost Approach is Not the Asset-Based Approach

■ The cost approach is used to value individual tangible and intangible assets

- So it is a generally accepted approach to value intangible assets
- It may be used to value the subject company tangible and intangible assets as part of the asset-based approach
- The cost approach is not a business valuation approach
- The cost approach may be used to value assets on a going-concern basis (it typically does not conclude a liquidation value)

The Cost Approach is Not the Asset-Based Approach (cont.)

■ The asset-based approach is a business valuation approach

- The asset-based approach is based on the company balance sheet (and not income statement)
- The asset-based approach involves the revaluation of all of the company assets (tangible and intangible) either:
 - individually – the asset accumulation method or
 - collectively – the adjusted net asset value method
- The asset-based approach values the company asset categories based on either:
 - the income approach to asset appraisal
 - the market approach to asset appraisal
 - the cost approach to asset appraisal

The Cost Approach is Not the Asset-Based Approach (cont.)

- Typically, in an asset-based approach analysis, at least one intangible asset is valued using an income approach method, such as:
 - the multiperiod excess earnings method (MEEM) or
 - the capitalized excess earnings method (CEEM)
- The asset-based approach does not conclude a going-concern value indication. Adjustments have to be made to the asset-based approach analysis to indicate a liquidation value

Intangible Asset Cost Approach Valuation Components

■ Typical cost approach valuation formula

	Replacement cost new
less:	Physical depreciation
less:	Functional obsolescence
<u>less:</u>	<u>Economic obsolescence</u>
equals:	Value indication

Intangible Asset Cost Approach Valuation Considerations

■ **All cost approach methods include a current cost measurement and a depreciation measurement**

■ **Four cost components**

- Direct costs (internal direct materials and direct labor)
- Indirect costs (external legal and development 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 IA RUL)
- Economic/external obsolescence (consider the IA ROI)

Intangible Asset Cost Approach Valuation Considerations

■ Cost approach valuation considerations

- Particularly relevant for recently developed IA, for which development cost or development effort data are available
- Also applicable for in-development or noncommercialized (e.g., defensive use) IA
- All cost components (including opportunity cost) included in the measurement
- Treatment of excess capital (development) costs and excess operating costs
- Consideration of the IA RUL
- Consideration of owner/operator economic obsolescence

Intangible Asset Market Approach Valuation Considerations

- Seasoned guideline IA/development stage subject IA
- Development stage guideline IA/seasoned subject IA
- State of the competition in the owner/operator industry
- Comparable profit margins—is the subject IA the only reason for the difference in profit margins between the owner/operator company and the selected CPM companies?
- Typically EBIT is used as the CPM income measure

Intangible Asset Market Approach Valuation Considerations (cont.)

- Valuation pricing metrics are based on either comparable or guideline:
 - licenses of IAs
 - sales of IAs
 - companies that own IAs

Intangible Asset Market Approach Valuation Considerations (cont.)

■ Valuation variables and procedures

- Quantitative/qualitative analysis of the subject IA
- 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 IA
- Application of the selected pricing multiples to the subject IA metrics

Data Sources Commonly Used to Identify CUT Royalty Rates

- IntangibleSpring
- ktMINE
- RoyaltyRange
- RoyaltySource
- RoyaltyStat, LLC
- Industry-specific databases

Data Sources Commonly Used to Identify CUT Royalty Rates (cont.)

- **IntangibleSpring – a subscription-based database of royalty rates sourced from license agreements filed with the SEC. Using a combination of text mining, natural language processing, and manual review, this database identifies and extracts complete license agreements from filings with the SEC. This database excludes agreements with incomplete pricing data.**

Data Sources Commonly Used to Identify CUT Royalty Rates (cont.)

- **ktMINE** – an interactive IP database that provides direct access to license royalty rates, actual license agreements, and detailed agreement summaries. The database contains over 16,000 IP license agreements. The IP license database is updated frequently. License agreements are searchable by industry, keyword, and various other parameters. The full text of each IP license agreement is available at www.bvmarketdata.com or www.ktmine.com.

Data Sources Commonly Used to Identify CUT Royalty Rates (cont.)

- **RoyaltyRange** – a U.K.-based IP royalty rate database. The database consists of manually gathered and analyzed data. The reports contain more than 50 detailed standardized comparability factors on royalty rates and license terms. Each report is supplemented with original unredacted agreements, as well as filings and other types of documents the data are gathered from. The database focuses on European transactions, but also contains some U.S. transactions. The database excludes agreements between related parties, agreements with undisclosed remuneration mechanisms, royalty-free agreements, agreements where royalties are expressed in other forms than percentage, agreements with individuals, universities, and other noncommercial entities. It is available at www.royaltyrange.com.

Data Sources Commonly Used to Identify CUT Royalty Rates (cont.)

- **RoyaltySource – AUS Consultants offers a database that provides IP 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 IP 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. It is available at www.royaltysource.com.**

Data Sources Commonly Used to Identify CUT Royalty Rates (cont.)

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

Data Sources Commonly Used to Identify CUT Royalty Rates (cont.)

- **Industry-specific databases (example: Recap IQ and Recap Explorer) – a database, now owned by Thomson Reuters, provides royalty rate, profit split, and other data for biotechnology and pharmaceutical company license and sales transactions. The database allows the user to tabulate guideline transactions, examines alternative deal structures, and evaluates drugs in biopharma pipelines with respect to probabilities of success, termination analysis, and development timelines. Access to the unredacted contracts is included. It is available at www.recap.com.**

The Royalty Rate Selection Process

■ The factors to consider in the royalty rate selection process include:

- the type of IA
- a single IA or multiple intangible assets
- de novo or seasoned IA
- in process, developed, or commercialized IA
- new vs. seasoned territory of licensor/licensee
- new vs. seasoned products/services covered
- length of the license term
- license term start and stop dates

The Royalty Rate Selection Process (cont.)

■ The factors to consider in the royalty rate selection process include: (cont.)

- sale/license, or other type of transfer
- transfer between independent parties
- type of license compensation:
 - royalty rate
 - profit split
 - cost plus
- type of royalty rate formula:
 - % of revenue
 - % of gross profit
 - % of net profit

Data Sources Commonly Used to Identify Guideline Companies and Comparable Profit Margins

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

Intangible Asset Income Approach Valuation Considerations

■ Income approach methods

- Yield capitalization involves uneven income projections over a finite projection period
- Direct capitalization involves an annual constant change rate income projection over either a finite period or a perpetuity period
- Typical IA income measures include:
 - incremental/differential income (with vs. without the IA)
 - excess income/residual income (business enterprise income less capital charge on all contributory assets)
 - profit split (percentage of business enterprise income assigned to the subject IA, based on a “functional analysis”)
 - residual profit split (excess income “split” between two final intangible assets)

Common Intangible Asset Income Levels

- EBITDA
- EBIT
- NOI (EBITDA less income taxes)
- Net income
- Net cash flow
- Residual income (after a CAC)
- Contribution income (for economic damages analysis)

Intangible Asset Income Approach Valuation Considerations

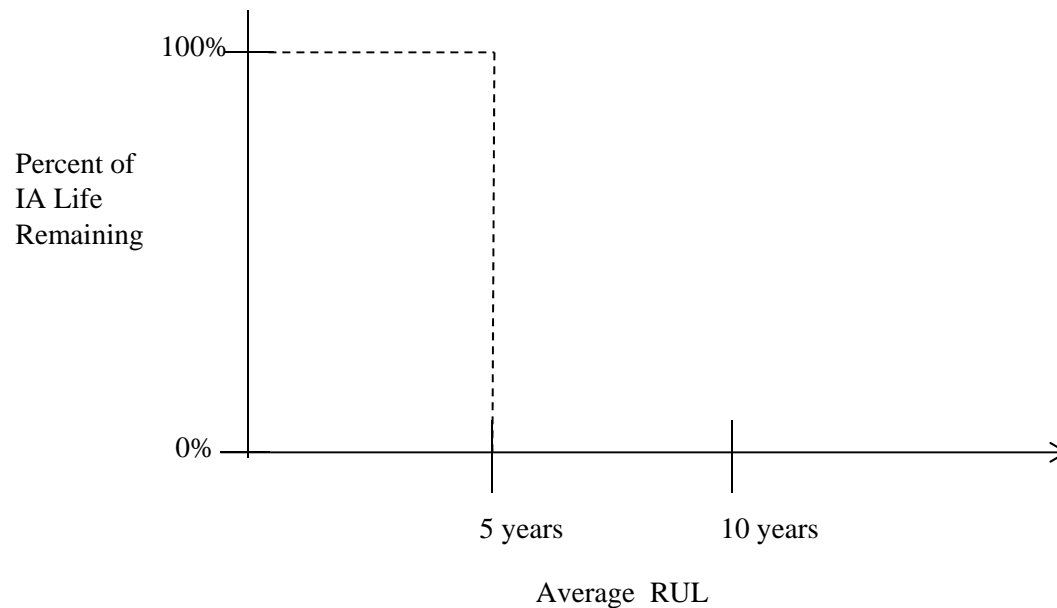
- Match the selected discount/capitalization rate with the selected income measure
- Match the selected discount/capitalization rate with the subject patent risk
- Consider the state of the competition in the owner/operator industry
- Consider all subsequent (to the valuation date) capx, R&D expenses, marketing expenditures, etc.

Intangible Asset Income Approach Valuation Considerations (cont.)

- Analyze only the income that is directly related to the subject IA
- Income projection should consider IA maintenance and protection costs
- Present value the projected income either:
 - over the IA average RUL
 - down the IA RUL decay curve

Intangible Asset Income Approach Valuation Considerations (cont.)

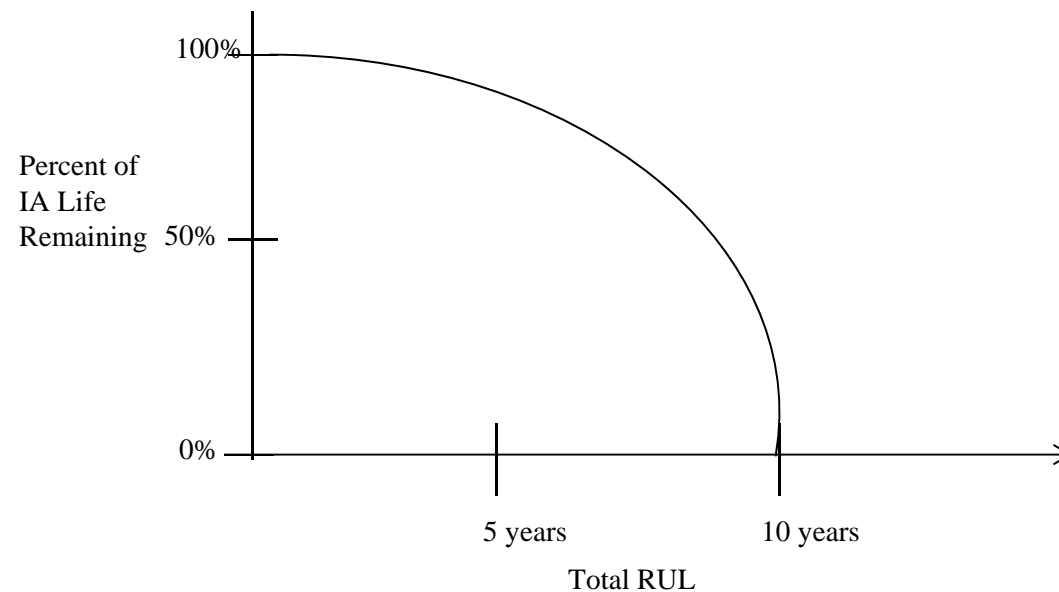
**Present Value of Income Projection
Over the Average Remaining Useful Life**



Assumes: IA Total Remaining Life of 10 Years
IA Average Remaining Useful Life of 5 Years

Intangible Asset Income Approach Valuation Considerations (cont.)

**Present Value of Income Projection
Down the Total Remaining Useful Life Curve**



Assumes: IA Total Remaining Life of 10 Years
IA Average Remaining Useful Life of 5 Years
Consider the Shape of the IA Life Cycle and the IA RUL

Cost Approach – RCNLD Method Example

Alpha Company
 Omega Compound Patent Valuation
 Cost Approach—Replacement Cost New Less Depreciation (RCNLD) Method
 As of January 1, 2015

Product Development Stages	Estimated Replacement Development Effort in Person Months [a]	Time to Develop Replacement (in Calendar Months) [b]	Indicated RCNLD Component [c] \$000
Initial compound	4,531	29	66,100
Product compound	575	25	8,400
Initial stage product tests	3,304	16	48,200
Second stage product tests	1,229	5	17,900
Third stage product tests	1,807	41	26,400
Final FDA license process	325	12	4,700
Branding and marketing	<u>85</u>	9	<u>1,200</u>
Total direct and indirect costs	11,856	24	172,900
Plus developer's profit [d]			10,500
Plus entrepreneurial incentive [e]			<u>31,200</u>
Equals: Total replacement cost new			214,600
Less: Depreciation and obsolescence [f]			<u>16,000</u>
Equals: Replacement cost new less depreciation			198,600
Fair market value of Omega compound patent (rounded)			<u>200,000</u>

Cost Approach – RCNLD Method Example (cont.)

Notes:

- [a] Based on Alpha Company employee time records and laboratory notebooks—related to this recently developed (and not yet commercialized) drug compound patent.
- [b] Based on the actual elapsed development time for the omega product and for similar Alpha Company pharmaceutical products.
- [c] Based on \$14,585 per person-month—i.e., the actual weighted average full absorption cost of all Alpha Company employees who worked on the omega compound development project (stated in 1/1/15 dollars).
- [d] Based on the total direct costs plus indirect costs times the typical profit margin for an independent laboratory/compound development firm.
- [e] Expected lost profit (net cash flow) during the first 24 months (i.e., the elapsed replacement period) of the omega drug commercialization process.
- [f] Based on the RCN of 1,100 person-hours related to the development of any unsuccessful or uncommercialized compound features. Should also consider the patent RUL and the patent ROI.

Market Approach – Relief from Royalty Method Example

Beta Company
Psi Compound Patent Valuation
Hypothetical Guideline Patent License Agreements
As of January 1, 2015

Guideline Drug Patent License	Guideline Drug Patent Licensee	Guideline Drug Patent Licensor	Guideline License Start Date	Guideline License Term Years	Guideline License Royalty Rate %	Other Consideration Paid to the Licensor	Type of Licensed Drug Product
1	Pfizer, Inc.	Columbia U.	2012	15	6	\$4m [a]	ED
2	Glaxo Smith Kline	Autogent	2013	10	5	\$10m [b]	cardiovascular
3	Johnson & Johnson	Novel N.V.	2014	12	10	[c]	anti-obesity
4	Merck & Co.	All Saints Hospital	2014	10	4.5	[d]	vascular
5	Pharmacia & Upjohn	MIT	2013	15	5.5	[e]	pulmonary hypertension
6	Wyeth-Ayerst	MD, LP	2012	20	8-10 [f]	[f]	botanical ED

Notes:

- [a] Represents an upfront (i.e., development financing) license payment.
- [b] Represents a milestone payment after the 5th year of the license.
- [c] The license agreement also settles a pending \$50 million litigation between the various license parties.
- [d] The physician owners/employees also receive research grants from Merck.
- [e] There are also numerous other relationships between the licensor/licensee parties.
- [f] The royalty rate range is based on the level of the drug product annual sales volume.

Market Approach – Relief from Royalty Method Example (cont.)

Beta Company

Psi Compound Patent Valuation

Guideline Royalty Rate Adjustment Grid and Selected Royalty Rate

As of January 1, 2015

Guideline Drug Patent License	Guideline Patent Royalty Rate %	Guideline Patent Comparable to the Subject Patent [a]	Size of the Guideline Product Market [b]	Growth Rate of Guideline Product Market [b]	Guideline Product Market Share Relative to the Subject Product [b]	Affect of Other Consideration Paid to the Licensor	Adjusted Guideline Patent Royalty Rate
1	6	3	0	0	--	+5% [c]	6%
2	5	2	++	++	0	+1% [c]	7%
3	10	2	+	0	0	-2% [c]	8%
4	4.5	3	+	0	-	- [c]	4%
5	5.5	2	+	+	0	- [c]	6%
6	8-10	3	++	-	-	-2% [d]	7%

Royalty rate mean	6.3%
Royalty rate trimmed mean	6.5%
Royalty rate median	6.5%
Royalty rate mode	<u>6.5%</u>
Selected psi patent royalty rate conclusion	<u>6.5%</u>

Notes:

- [a] Based on a scale of 0 to 3; where 0 means that the guideline patent is less comparable to the psi patent; and 3 means that the guideline patent is more comparable to the psi patent.
- [b] Based on a scale of --, -, 0, +, ++; where – is the smallest in size relative to the psi patented product; and ++ is the largest in size relative to the psi patented product.
- [c] Valuation analyst adjustment, based on an assessment of other factors (1) in the guideline patent license agreement or (2) between the guideline patent licensor and the licensee.
- [d] Valuation analyst adjustment, due to the different nature of a botanical drug product versus a pharmaceutical drug product.

Market Approach – Relief from Royalty Method Example (cont.)

Beta Company
Psi Compound Patent Valuation
Relief from Royalty Valuation Method
As of January 1, 2015
(in \$ millions)

Psi Patent Valuation Analysis: [a]	Projection Period								
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Psi product revenue expected growth rate [b]	10%	10%	10%	0%	0%	0%	-12%	-12%	-12%
Psi revenue amount (year 0 revenue = 400)	440	484	532	532	532	532	469	412	363
Selected patent 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>
Projected “relief from royalty” license expense (rounded)	29	31	35	35	35	35	30	27	24
Projected patent maintenance expense (year 0 expense = 10) [c]	<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>
Projected net “relief from royalty” license expense (rounded)	19	20	24	24	23	23	18	14	11
Present value discount factor (at 20%, mid-year convention)	0.91	0.76	0.63	0.53	0.44	0.37	0.30	0.25	0.21
Present value of “relief from royalty” net license expense	<u>17</u>	15	15	13	10	9	5	4	2
Total present value or “relief from royalty” net license expense	<u>90</u>								
Fair market value of the psi compound patent (rounded)	<u>90</u>								

Market Approach – Relief from Royalty Method Example (cont.)

Notes:

- [a] Expected RUL of the psi patent is 9 years, based on management's projection of the psi product economic life. Management is currently developing a replacement product.
- [b] Analyst derived the projected revenue growth/decline rates (in conjunction with management) based on an analysis of similar drug product revenue growth/decline rates during the last half of their patent life cycles.
- [c] Analyst derived (in conjunction with management) an estimate of the psi product legal, R&D, marketing, and other maintenance expenses.

Income Approach – Multiperiod Excess Earnings Method Example

Gamma Company
 Chi Compound Patent Valuation
 Income Approach — Multiperiod Excess Income Method
 As of January 1, 2015

	Notes	Pro Forma Years									
		12/31/11	12/30/12	12/30/13	12/30/14	12/31/15	12/30/16	12/30/17	12/30/18	12/31/19	12/30/20
Valuation of Chi Compound Patent	[a]	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Revenue attributable to chi product	[b]	3,575,289	2,604,350	1,849,994	1,289,821	883,047	679,946	523,559	403,140	310,418	239,022
Annual growth rate percent	[c]	NA	-27.2%	-29.0%	-30.3%	-31.5%	-23.0%	-23.0%	-23.0%	-23.0%	-23.0%
EBITDA		1,573,127	1,145,914	813,997	567,521	388,541	299,176	230,366	177,382	136,584	105,170
EBITDA margin	[d]	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
Less: Depreciation/amortization expense	[e]	793,018	552,967	375,423	248,423	160,263	123,402	95,020	73,165	56,337	43,380
EBIT		780,109	592,947	438,575	319,167	228,278	175,774	135,346	104,216	80,247	61,790
EBIT margin		21.8%	22.8%	23.7%	24.7%	25.9%	25.9%	25.9%	25.9%	25.9%	25.9%
Less: Income taxes @ 37 percent	[f]	<u>288,640</u>	<u>219,390</u>	<u>162,273</u>	<u>118,092</u>	<u>84,463</u>	<u>65,036</u>	<u>50,078</u>	<u>38,560</u>	<u>29,691</u>	<u>22,862</u>
Net income		491,469	373,557	276,302	201,075	143,815	110,738	85,268	65,656	50,556	38,928
Net income margin		13.7%	14.3%	14.9%	15.6%	16.3%	16.#5	16.3%	16.3%	16.3%	16.3%
Plus: Depreciation/amortization expense		793,018	552,967	375,423	248,354	160,263	123,402	95,020	73,165	56,337	43,380
Less: Contributory asset charges:											
Working capital capital charge	[g]	27,530	20,053	14,245	9,932	6,799	5,236	4,031	3,104	2,390	1,840
Tangible assets capital charge	[g]	(823,022)	(599,454)	(425,589)	(296,467)	(202,736)	(156,107)	(120,202)	(92,556)	(71,268)	(54,876)
Routine intangible assets capital charge	[g]	<u>(164,756)</u>	<u>(123,965)</u>	<u>(91,524)</u>	<u>(66,472)</u>	<u>(47,625)</u>	<u>(36,671)</u>	<u>(28,237)</u>	<u>(21,742)</u>	<u>(16,742)</u>	<u>(12,891)</u>
Equals: patent economic income		324,239	223,159	148,856	96,422	60,516	46,598	35,880	27,627	21,273	16,381
Discounting periods	[h]	0.5000	1.5000	2.5000	3.5000	4.5000	5.5000	6.5000	7.5000	8.5000	9.5000
Present value factor @ 11%		<u>0.9492</u>	<u>0.8551</u>	<u>0.7704</u>	<u>0.6940</u>	<u>0.6252</u>	<u>0.5633</u>	<u>0.5075</u>	<u>0.4572</u>	<u>0.4119</u>	<u>0.3710</u>
Present value of patent excess income		<u>307,767</u>	<u>190,823</u>	<u>114,679</u>	<u>66,917</u>	<u>37,834</u>	<u>26,249</u>	<u>18,209</u>	<u>12,631</u>	<u>8,762</u>	<u>6,077</u>
Present value of patent excess income		<u>789,949</u>									
Fair market value of chi patent (rounded)		<u>790,000</u>									

Income Approach – Multiperiod Excess Earnings Method Example (cont.)

Notes:

- [a] RUL on the chi compound patent is 10 years. Gamma management is planning to replace the chi product with a new product as soon as it goes “off patent.”
- [b] Management provided a revenue projection for the chi product for the next five years. That projection indicates the expected impact of noninfringing competitive pharmaceutical products.
- [c] The analyst quantified the 23% revenue decay rate for similar drugs during the last five years of their patent life cycles.
- [d] The chi product EBITDA margin has been fairly constant at around 44% during the first half of the patent life cycle.
- [e] Depreciation expense is allocated to all Gamma products based on their relative revenue.
- [f] Income tax rate at the marginal Gamma tax rate.
- [g] Capital charge is based on a fair rate of return multiplied by the:
 - FMV of product line NWC
 - FMV of product line RE and TPP
 - FMV of product line routine intangible assets (other than the chi patent)
- [h] Midyear discounting convention.

Database Resources are Different than in a Business Valuation

- The previous discussion considered the transactional databases that analysts commonly use to identify IA CUT transactions
- The following slides summarize the transactional databases that analysts commonly use to identify:
 - guideline publicly traded company data
 - guideline merged and acquired company data

Guideline Publicly Traded Company Databases

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

Bloomberg

- **Bloomberg is a fully searchable online database that provides financial information on active and inactive U.S. publicly traded companies and active and inactive international companies. Companies may be searched by industry sectors or by Standard Industrial Classification (SIC) codes. Detailed financial information is available. The information is updated frequently.**

FactSet

- This database provides an equity screener in which one can screen by numerous criteria, including industry; business description; financial data such as revenue, EBITDA, or assets; geographic location; and closing price, to name a few. The database contains information on over 75,000 companies worldwide. Over 2,000 unique financial data items are provided.

MergentOnline

- **MergentOnline is a fully searchable online database that provides financial information on active and inactive U.S. publicly traded companies and approximately 20,000 active and inactive international companies. Companies are listed by SIC codes and by North American Industry Classification System (NAICS) codes.**

Pitchbook

- This database, available from Business Valuation Resources, includes information on publicly traded U.S. companies. Users can screen using numerous criteria including industry; business description; financial data such as revenue, EBITDA, or assets; geographic location; and closing price, to name a few.

S&P Capital IQ

- S&P Capital IQ contains detailed financial and textual information on over 75,000 publicly traded companies (both domestic and foreign). The information is derived from documents filed with the Securities and Exchange Commission and similar global stock regulators (as well as proprietary research). The database may be searched by SIC code or by Standard & Poor's industry classifications. Detailed financial information is available.

Thomson ONE

- **Thomson ONE is a fully searchable online database that provides financial information on over 52,000 public companies and over 1 million private companies. Companies may be searched by Global Industry Classification Standard (GICS) codes or SIC codes. Detailed financial information is available. The information is updated frequently. More information is available at <http://thomsonreuters.com>.**

Guideline Merged and Acquired Company Databases

- Bizcomps
- Bloomberg
- FactSet Mergers
- Pratt's Stats
- Public Stats
- S&P Capital IQ
- Thomson ONE

Bizcomps

- The Bizcomps database provides more than 13,436 deals with details on purchases of "main street" businesses dating back to 2000. Analysts can search by SIC code or NAICS code as well as by other variables. Annual gross revenue, asset figures, operating ratios, price, and terms of sale are included in the search results.

Bloomberg

- Bloomberg provides data on transactions involving publicly traded companies. Transactions can be searched by industry sector or by SIC code, as well as by numerous other variables. Data points available include business description, SIC codes, deal synopsis, deal terms, transaction price, and seller financials (where available), among others.

FactSet Mergers

- **FactSet Mergers provides information on U.S. and European mergers and acquisitions transactions including cross border deals. The database contains information on both public and private transactions. It Uses a variety of public and proprietary sources, including but not limited to press releases, business wire releases, and SEC filings to find relevant transactions. Data points available include product line/business description, SIC codes, deal synopsis, deal terms, transaction price, and seller financials (where available), among others.**

Pratt's Stats

- **Pratt's Stats database includes data on over 24,000 acquired private companies. Deals are searchable by SIC code or NAICS code as well as by other variables. The information comes from business brokers, as well as from SEC filings in middle market M&A deals where a public company purchases a private company. Pratt's Stats provides over 100 data points per transaction highlighting the financial and transactional details of the sales of closely held companies.**

Public Stats

- **Public Stats is a fully searchable public company merger and acquisitions (M&A) transaction database with 3,723 transactions dating back to 1995 that detail the 100% sale of public companies. Deals are searchable by SIC code. It features up to 64 data points on each transaction including multiples and financial ratios sorted by profitability, leverage, liquidity, and activity ratios.**

S&P Capital IQ

- S&P Capital IQ contains transaction information on publicly traded and privately held companies, both in the U.S. and international. Transactions are searchable by industry or SIC code, as well as by numerous other variables, including business description. Data points available include business description, industry, deal synopsis, deal terms, transaction price, and seller financials (where available), among others. A detailed transaction summary is available for each deal and (where available) users can click through directly to the relevant SEC documents.

Thomson ONE

- Thomson ONE contains transaction information on publicly traded and privately held companies, both in the U.S. and international. Transactions are searchable by SIC code or NAICS code, as well as by numerous other variables, including business description. Data points available include business description, industry, deal synopsis, deal terms, transaction price, and seller financials (where available), among others.

Use More Than One Database

- **While many of these databases provide very similar data, there are differences that make it important to use more than one source for each search:**
 - Companies often classified under different SIC codes in different databases.
 - The transaction price shown may be different in different databases, depending on what is included. Best to check source documents (e.g., SEC Forms 8K), where possible.
 - Different data points may be available for the same deal from different databases (e.g., one source may include EBITDA of target company, while another may not show this).

Summary and Conclusion

- Valuation purpose and objective considerations
- Types of analyses and opinions
- Premise of value: highest and best use
- Generally accepted business valuation approaches
- Generally accepted intangible asset valuation approaches
- Income approach analysis differences
 - Income allocation issues
 - Present value discount rate issues
 - Remaining useful life issues

Summary and Conclusion (cont.)

■ Market approach analysis differences

- Different valuation methods
- Different transactional databases
- Different due diligence procedures

■ Cost approach analysis differences

- Different valuation methods
- The cost approach is not the asset-based approach
- Both the cost approach and the asset-based approach typically conclude going-concern value

■ Questions and discussion