Willamette Management Associates

Insights

Issue 128

Spring 2021

Business Valuation, Forensic Analysis, and Financial Opinion Insights

Thought Leadership in Fair Value Measurements

Willamette Management Associates

$10.00 U.S.

Willamette Management Associates
Thought Leadership

Insights

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Thought Leadership in Fair Value Measurements

Editor for This Issue: Nathan P. Novak

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Forethoughts

During the ongoing COVID-19 pandemic, Willamette Management Associates remains committed to providing thought leadership regarding valuation, damages, and transfer price analyses. This *Insights* issue focuses on fair value measurements and other accounting-related valuation issues—particularly with regard to intangible assets.

Fair value measurements often involve intangible asset valuation analyses. There are many circumstances in which an analyst may be asked to perform intangible asset fair value measurements within the context of U.S. GAAP or international GAAP compliance. Companies may be required to report the fair value of certain intangible assets as a result of a business combination or an asset impairment analysis—or for a number of other transaction-related reasons. The discussions in this *Insights* issue present current thought leadership related to intangible asset valuation issues with respect to fair value measurements and other financial accounting issues

Willamette Management Associates has over 50 years of experience in providing tangible and intangible asset valuation analyses prepared for financial accounting purposes. Willamette Management Associates analysts routinely provide both independent auditors and general counsel, chief financial officers, chief accountants, and other company executives with fair value measurement opinions.

This *Insights* issue includes discussions related to the financial accounting for business combinations under FASB Accounting Standards Codification Topic 805. In particular, these discussions provide thought leadership regarding the recent guidance of alternative accounting treatments developed by the Private Company Council. This *Insights* issue also presents thought leadership discussions on valuation approaches that may be used to measure the fair value of intangible assets, such as the application of the cost approach. Other discussions explore specific procedures that may be applied in various valuation methods, such as procedures to estimate an intellectual property royalty rate or considerations related to the application of the so-called tax amortization benefit.

We thank all of our contributors, colleagues, clients, and friends for their ongoing support, and we are proud to present this issue of *Insights*.

About the Editor

Nathan P. Novak

Nathan Novak CFA, ASA, is a vice president of Willamette Management Associates in the firm's Chicago office.

Nathan has extensive experience performing on valuation and economic analyses for taxation planning and compliance purposes (including federal income tax, estate tax, and gift tax), shareholder disputes, corporate restructuring and reorganization, transfer pricing analyses, asset impairment analyses, and corporate planning purposes. Nate has experience analyzing a wide range of business entities, from billion-dollar multinational corporations to substantial private companies.

Nathan performs business and intangible asset valuations for companies operating in a multitude of industries, including industrial manufacturing, oil and gas production and exploration, food and grocery retail, pharmaceuticals, investment management and financial services, and computer software, among many others.

Nathan holds a bachelor of science degree in finance (with honors) from the University of Illinois, College of Business. He holds the chartered financial analyst ("CFA") designation from the CFA Institute and the accredited senior appraiser ("ASA") designation from the American Society of Appraisers. He is also a member of the Business Valuation Association of Chicago.

Nathan has contributed thought leadership published in several professional journals, including *Insights*, *Business Valuation Alert*, and *Pennsylvania Family Lawyer*. He has presented in continuing education webinars hosted by Business Valuation Resources and other organizations. In addition, he recently co-authored (with Robert Reilly) an AICPA valuation practice aid titled "Best Practices in Intangible Asset Valuation—Cost Approach Methods and Procedures."

Thought Leadership Discussion

The Private Company Accounting Alternative and Intangible Asset Valuation Considerations

Terry G. Whitehead, CPA, and Tia Hutton

Owners and managers of private companies that have completed a business combination (i.e., an acquisition) often conclude there is no need to identify or value the acquired intangible assets. This is because such private company owners and managers may believe that "no intangible assets were acquired." This statement may be true in certain acquisitions. However, it is inappropriate for a private company acquirer to ignore this financial accounting requirement without considering all of the facts and circumstances related to each acquisitive transaction. In addition, it is a common misconception that a company which has elected the private company accounting alternative is no longer subject to intangible asset valuation requirements with regard to its business acquisitions.

Introduction

According to the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 805: Business Combinations ("ASC Topic 805"), an acquirer is required to recognize—separately from goodwill—the identifiable intangible assets acquired in a business combination.

When recognizing and valuing identifiable intangible assets in a business combination, the acquirer should consider all of the target entity's assets, including the consideration of assets that are not currently presented on the target company's historical-cost-based financial statements.

Identifying and valuing intangible assets can be a complex and costly process. For many companies involved in a business combination, the benefits of separately identifying and valuing all of the acquired intangible assets do not justify the related expense. As a result, in an effort to reduce the burden to private companies with regard to this potentially negligible benefit to financial statement users, the FASB endorsed an alternative process developed by the Private Company Council ("PCC").

The PCC concluded that intangible assets that are (1) legally protected, (2) separately transferable, and (3) capable of providing discrete cash flow are most relevant to private company financial statement users. Based on this determination, the PCC proposed an alternative reporting requirement for private companies.

According to the PCC, adoption of this accounting alternative is not expected to significantly diminish the usefulness of the information provided in private company financial statements. However, this private company accounting alternative should reduce the related expenses to the reporting entity.

The PCC Accounting Alternative

According to ASC Topic 805, an acquirer will recognize and report the fair value of the assets and liabilities acquired, including all identifiable intangible assets.

According to ASC Topic 805, an intangible asset is identifiable if it meets either of the following two criteria:

1. 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.
2. 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 asset, or liability—regardless of whether the entity intends to do so.

If the private company elects the PCC accounting alternative, the acquirer will no longer be required to separately report either of the following intangible assets.

Instead, the value of these acquired intangible assets will be included in goodwill:

- Customer-related intangible assets, unless they are capable of being sold or licensed independently from the other assets of the business
- Noncompetition agreements

On December 15, 2014, the FASB issued four private company accounting alternatives under U.S. generally accepted accounting principles ("GAAP"). The private company accounting GAAP alternatives (i.e., Accounting Standards Updates or "ASUs") allow eligible private companies the option to elect the accounting alternatives.

The four elections are collectively referred to as "private company GAAP" (i.e., the PCC accounting alternative) and include the following:

1. FASB ASU No. 2014-02, Intangibles—Goodwill and Other (Topic 350): Accounting for Goodwill ("ASU 2014-02")
2. FASB ASU No. 2014-03, Derivatives and Hedging (Topic 815): Accounting for Certain Receive-Variable, Pay-Fixed Interest Rate Swaps—Simplified Hedge Accounting Approach
3. FASB ASU No. 2014-07, Consolidation (Topic 810): Applying Variable Interest Entities Guidance to Common Control Leasing Arrangements
4. FASB ASU No. 2014-18, Business Combinations (Topic 805): Accounting for Identifiable Intangible Assets in a Business Combination ("ASU 2014-18")

The remainder of this discussion focuses on the application of ASU 2014-02 (Goodwill) and ASU 2014-18 (Intangible Assets) for private companies that adopt the accounting alternatives.

PCC Accounting Election Requirements

In order to qualify for the PCC accounting alternative, an entity should first qualify as a private company under the provisions of ASU 2013-12, Definition of a Public Business Entity. Subsequent to the initial proposal by the PCC, the FASB also extended the PCC accounting alternative to not-for-profits under ASU 2019-06.

Second, if an entity elects ASU 2014-18 alternative reporting of intangible assets, the entity should also adopt ASU 2014-02 regarding the amortization of goodwill.

Finally, if a PCC accounting alternative is adopted, it will be regarded as an accounting policy change for the reporting company resulting in prospective application to all future transactions after the adoption date.

If a PCC accounting alternative is adopted, it does not encompass prior transactions (i.e., it is not a retrospective accounting policy change).

PCC Accounting Alternative—Intangible Assets

Exhibit 1 summarizes the primary financial accounting differences under ASC Topic 805 and the PCC accounting alternative (i.e., ASU 2014-02 and ASU 2014-18).

As indicated in Exhibit 1, the provisions of ASU 2014-18 relate only to the consideration of customer-related intangible assets.

As a result, the adoption of this alternative does not eliminate the requirement for the acquirer to consider and report the fair value of other identifiable intangible assets acquired—which remain consistent as outlined in ASC Topic 805.

Exhibit 1
Financial Reporting Comparison
ASC 805 and the PCC Accounting Alternative

Accounting Guidance	Acquired Goodwill	Customer-Related Intangible Assets	Other Identifiable Intangible Assets
ASC Topic 805	Goodwill is not amortized but instead is tested annually for impairment	Separately recognize customer-related intangible assets, including noncompetition agreements	Report other identifiable intangible assets at fair value
PCC Accounting Alternative	Goodwill is amortized straight-line over the lesser of 10 years or the useful economic life and tested for impairment only upon the occurrence of a triggering event	Separately recognize customer-related intangible assets only if they are capable of being sold or licensed separately or arise from contractual rights (other customer-related intangible assets and noncompetition agreements are not separately recognized but instead are included as part of goodwill)	Report other identifiable intangible assets at fair value

Considerations for Electing the PCC Accounting Alternative

The election of ASU 2014-18 allows for potentially fewer intangible assets to be recognized. It does not, however, eliminate the need to consider all identifiable intangible assets. Any identifiable intangible assets that do not fall within the recognition and reporting criterion for the PCC accounting alternative are recognized under the standard criterion provided in ASC Topic 805.

Reporting entities considering the adoption of the PCC accounting alternative should carefully review the election requirements previously identified as well as the following potential issues.

Accounting Policy Change

If adopted, the PCC accounting alternative would constitute an accounting policy change that requires prospective application to all future transactions after the adoption date.

The PCC accounting alternative is only applicable to transactions that occur after the election of the alternative and cannot be retroactively applied to pre-existing intangible assets.

Intended Financial Statement User

Important considerations for a company's financial statement presentation include the requirements of those individuals or businesses that are expected to use and rely on the independently prepared (often audited) financial statements.

As a result, if the end user requirements are the ultimate determination and if that determination requires the ASC GAAP to be followed, then the company's interest or desire to elect the PCC accounting alternative may become irrelevant.

Future Public Offering

A private company electing ASU 2014-18 that ultimately undertakes a public stock offering will be required to discontinue the use of the PCC accounting alternative. Accordingly, the company will be required to recast its historical financial statements so as to comply with ASC GAAP.[1]

This recast would potentially include adjustments to goodwill and the valuation of previously unreported identifiable customer-related intangible assets and noncompetition agreements. This recast would need to be performed as of the original acquisition date. Such a recast could cause:

1. significant challenges in data gathering and
2. potential costs in excess of what were incurred at the time of the original acquisition.

PCC Accounting Alternative: ASU 2014-18

Customer-Related Intangible Assets

It is important to distinguish between (1) the customer-related intangible asset recognition criteria under the PCC accounting alternative and (2) customer-related intangible asset recognition criteria under ASC Topic 805 for public entities (or for private companies not electing the alternative).

The ASC Topic 805 criteria also apply for customer-related intangible assets may include customer lists, order or production backlog, and customer contracts and related customer relationships. ASC Topic 805 defines these customer-related intangible assets as follows:

- Customer Lists. A customer list consists of information about customers, such as their names and contact information. A customer list also may be in the form of a database that includes other information about the customers, such as their order histories and demographic information. A customer list generally does not arise from contractual or other legal rights.
- Order or Production Backlog. An order or production backlog arises from contracts such as purchase or sales orders.
- Customer Contracts and the Related Customer Relationships. If an entity establishes relations with its customers through contracts, those customer relationships arise from contractual rights. A customer relationship exists between an entity and its customer if the entity has information about the customer and regular contact with the customer, and the customer has the ability to make direct contact with the entity.

When a private company elects ASU 2014-18, it is required to recognize separately from goodwill those customer-related identifiable intangible assets that are "capable of being sold or licensed ***independently*** from other assets of the business." [emphasis added] As indicated previously, when a private company does not elect the PCC alternative, the company is required to recognize intangible assets based on the standard criteria provided under ASC Topic 805.

The intangible asset's contractual or legal nature is not a recognition criterion under the PCC accounting alternative. As a result, it is possible for a customer-related intangible asset to meet the ASC Topic 805 contractual-legal criterion and still be subsumed into goodwill. This would occur if the intangible asset is not capable of being sold or licensed independently from other assets of the business.

Additionally, the separability criterion of ASC Topic 805 requires that an intangible asset is capable of being "sold, transferred, licensed, rented, or exchanged, either individual or together with related contract, identifiable asset or liability."

Under the PCC accounting alternative, the recognition criterion requires an intangible asset to be "capable of being sold or licensed ***independently*** from other assets of the business." [emphasis added] As a result, it is possible for a customer-related intangible asset to meet the ASC Topic 805 recognition criterion but not meet the PCC accounting alternative recognition criterion.

The FASB initially indicated that it did not expect many customer-related intangible assets to meet the recognition criterion under the PCC accounting alternative. However, the FASB did provide examples of customer-related intangible assets that may meet the recognition criterion under the PCC accounting alternative (i.e., they are able to be sold or licensed independently).

These PCC recognition customer related-intangible assets include, but are not limited to, the following:

- Mortgage servicing rights
- Commodity supply contracts
- Core deposits
- Customer information (i.e., customer lists)

Noncompetition Agreements and the PCC Alternative for Intangible Assets

A noncompetition agreement is a legal contract that prohibits or restricts one party from competing against another party. A noncompetition agreement in place as part of a business combination would (1) meet the contractual-legal criterion under ASC Topic 805 and (2) be considered an identifiable intangible asset.

However, if a private company elects the PCC accounting alternative, then noncompetition agreements are not recognized separately from goodwill.

Identifiable Intangible Assets Required in the PCC Accounting Alternative

As previously discussed, private companies that adopt the PCC accounting alternative are not required to recognize:

1. customer-related intangible assets that are not capable of being sold or licensed independently from the other assets of a business and
2. noncompetition agreements separately from goodwill.

All other identifiable intangible assets will continue to be recognized based on the criterion provided in ASC Topic 805.

The following discussion provides examples of identifiable intangible assets that are *not excluded* in the PCC accounting alternative and, therefore, may still require a fair value determination in a business combination. In other words, all identifiable intangible assets not specifically excluded in the PCC accounting alternative should be considered, analyzed, and reported according to the ASC GAAP.

Since the election of the PCC accounting alternative does not eliminate all intangible asset reporting requirements in a business combination, it is important to recognize many of the identifiable intangible assets to be considered.

FASB considers intangible assets to be identifiable if they meet either:

1. the contractual-legal criterion or
2. the separability criterion.

ASC Topic 805 provides a nonexhaustive list of intangible assets that the FASB considers as having characteristics that meet either of the criteria.

These intangible assets generally fall into the following categories:

- Marketing-related intangible assets
- Customer-related intangible assets
- Artistic intangible assets
- Contract-related intangible assets
- Technology-related intangible assets

An acquirer should assess identifiable intangible assets based on the specific facts and circumstances of the target business and its industry (e.g., certain intangible assets may be unique to specific industries). For example, the health care/health sciences industry may include identifiable intangible assets unique to that industry, such as certificates of need, contracts with insurers, operating licenses, and physician/provider contracts.

A distinction is that an assembled workforce is typically not considered an identifiable intangible asset to be separately reported in a business combination transaction. As a result, any value attributed to an assembled workforce in a business combination is typically subsumed into goodwill.

However, the fair value measurement of an assembled workforce may be required in order to estimate the fair value of another identifiable intangible asset valued by reference to certain valuation methods.

Additionally, an employment contract between an individual employee and the employer generally meets the contractual-legal criterion and, therefore, may be valued separately from goodwill.

Marketing-Related Intangible Assets

Marketing-related intangible assets are assets that are primarily used in the marketing or promotion of products and services of the entity.

ASC Topic 805 provides the following examples of marketing-related intangible assets:

- Trademarks, service marks, trade names, collective marks, and certification marks
- Trade dress (unique color, shape, package design)
- Newspaper mastheads
- Internet domain names

A noncompetition agreement would generally be considered a marketing-related intangible asset according to ASC Topic 805. However, if a company adopts the PCC accounting alternative, it will not be required to recognize noncompetition agreements separately from goodwill.

Customer-Related Intangible Assets

If a private company adopts the PCC accounting alternative, customer-related intangible assets that are not capable of being sold or licensed independently from other assets of a business are subsumed into goodwill. If the customer-related intangible asset is capable of being sold or licensed independently from other assets of a business, then it may be recognized and valued separately from goodwill.

Even after electing the PCC accounting alternative, a private company should analyze each of the acquired customer-related intangible assets and should not automatically assume they are incapable of being sold or licensed independently of other assets.

Artistic-Related Intangible Assets

According to ASC Topic 805, artistic-related intangible assets arise from contractual or legal rights such as those provided by copyright. The copyright holder can transfer a copyright in whole through an assignment or in part through a licensing agreement.

If an acquirer acquires multiple copyrights, the acquirer can recognize any related assignments or license agreements as a single asset if they have similar useful lives.

ASC Topic 805 provides the following examples of artistic-related intangible assets:

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

Contract-Related Intangible Assets

According to ASC Topic 805, contract-based intangible assets represent the value of rights that arise from contractual arrangements.

ASC Topic 805 provides the following examples of contract-based intangible assets:

- License, royalty, standstill agreements
- Advertising, construction, management, service or supply contracts
- Operating lease agreements of a lessor
- Construction permits
- Franchise agreements
- Operating and broadcast rights
- Servicing contracts such as mortgage servicing contracts
- Employment contracts that are favorable
- Use rights such as drilling, water, air, timber cutting, and route authorities

Technology-Related Intangible Assets

ASC Topic 805 provides the following examples of technology-based intangible assets:

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

Impact on Goodwill

Any intangible assets that are not individually recognized under the PCC accounting alternative or under ASC Topic 805 are subsumed into goodwill. In addition, if a private company adopts ASU 2014-18, it is also required to adopt ASU 2014-02.

The PCC accounting alternative under ASU 2014-02 allows private companies to amortize goodwill acquired in a business combination transaction on a straight-line basis (1) over 10 years or (2) over a shorter period if the company can demonstrate a more appropriate useful life.

Allowing private companies to amortize goodwill is one of the most significant differences between ASC GAAP and the PCC accounting alternative for private companies. The amortization of goodwill is

prohibited under ASC GAAP. Instead, goodwill is tested at least annually for impairment. Amortizing goodwill can have impacts on a company's financial statements and financial ratios.

Another difference between ASC GAAP and the PCC accounting alternative is the frequency of goodwill impairment testing. Under ASC GAAP, goodwill impairment testing is required at least annually, or more frequently under certain circumstances.

Under the PCC accounting alternative, it is only necessary to test goodwill for impairment when a triggering event occurs as defined by the FASB.

Such triggering events may include (but are not limited to) the following:

1. Deterioration in general economic conditions
2. Deterioration in industry or market conditions
3. Increased costs that have a negative impact on earnings and cash flow
4. Deterioration of financial performance
5. Changes in key personnel or customers
6. Bankruptcy
7. Litigation
8. Disposing of all or a portion of an entity (or reporting unit)
9. A sustained decrease in share price (in absolute terms or in comparison to peers)

The elimination of the required annual impairment test can be another cost saver for companies electing the PCC accounting alternative. Once elected, the accounting alternative applies to all existing goodwill and to all goodwill recognized in future transactions within the scope of the PCC alternative.

Example of an Intangible Asset Not Excluded under the PCC Accounting Alternative

Once an acquirer determines that it is necessary to recognize an intangible asset in a business combination, that asset's fair value should be measured.

The FASB defines fair value as the "amount at which an asset (or liability) could bought (or incurred) or sold (or settled) in a current transaction between willing parties, that is, other than in a forced or liquidation sale."

In estimating the fair value of an intangible asset, an analyst will consider the three generally accepted intangible asset valuation approaches: (1) the cost approach, (2) the market approach, and (3) the income approach. Within each valuation approach, multiple methods may be considered.

The valuation approaches and methods ultimately applied are based on the analyst's judgement and on the facts and circumstances of each engagement. A detailed description of the generally accepted valuation approaches and methods for estimating the fair value of intangible assets is beyond the scope of this discussion.

There are a significant number of potential identifiable intangible assets that are not excluded when electing the PCC accounting alternative. One example is a company's trade name.

The following example illustrates one valuation method that can be used to value a trademark and trade name. The following example assumes that a private company has made an acquisition and has identified the target company's trade name as an identifiable intangible asset under ASC Topic 805. Even though the acquirer has elected to report under the PCC accounting alternative, it will still need to measure and report the fair value of the acquired trademark and trade name.

The example also includes certain considerations, factors, and components of a business which may impact the underlying value of a trade name. The example is not intended to be the exclusive or preferred method of valuation.

The facts and circumstances of each assignment should help an analyst to identify an appropriate valuation method, as well as the most relevant (i.e., important) factors to consider, related to the trade name subject to analysis.

Trade Name Overview

The following example provides an overview of certain considerations and analysis regarding the value of a trade name with an indefinite life. A trade name is the name under which a company performs its business and is marketed and known by the general public. This name may or may not be the same as a company's legal name.

A trade name may also function as a company's trademark, and in many instances the two are not necessarily separable from the other. Trade names and trademarks may have different registration requirements and legal considerations, but that consideration is beyond the scope of this discussion.

Valuation Overview

The following trade name valuation example applies the so-called relief from royalty ("RFR") method. The RFR method is a market approach method. This

method estimates the value of an intangible asset based on the premise that if the company did not own the trade name, it would need to license the name at a reasonable royalty rate in order to receive a comparable level of earnings.

The royalty expense savings (or the relief from the required license royalty) due to current ownership of the trade name can then be analyzed to estimate the value of the trade name intangible asset.

The first step in the RFR method is to identify guideline sale or license transactions. This is generally accomplished by developing an appropriate search criterion and utilizing publicly available transaction databases (illustrated in step 1 below).

Once a group of comparable sale or license transactions is identified (often called comparable uncontrolled transactions, or "CUTs"), the data may be used to calculate various pricing metrics or royalty rates (illustrated in step 2 below).

The analyst can then compare (1) the comparable sale or licensing transaction intangible assets to (2) the subject company intangible asset. The analyst may consider relevant factors expected to affect value. Based on this comparison, the analyst selects pricing metrics or royalty rates to apply to the subject company (illustrated in step 3 below).

Finally, the selected pricing metrics are applied to the subject company earnings measure (typically revenue) to estimate an indicated license or royalty savings (illustrated in step 4 below). The estimated relief from royalty payments can then be converted to an indicated value using a present value factor.

The following example applies the RFR method to measure the value of the trade name.

Select Sample of Guideline Transactions (Step 1)

Exhibit 2 presents a summary of the selected license transactions that the analyst determined were comparable to the subject trade name intangible asset. In this example, the subject company is a regional propane distributer.

Transaction Pricing Metrics (Step 2)

Exhibit 2 presents two royalty rate calculation methods: (1) royalties based on a percent of gross revenue and (2) royalties based on a dollar amount per 10,000 gallons of propane sales.

The analyst determined that a royalty rate based on gross revenue is appropriate to apply in the analysis. Accordingly, the analyst calculated the implied revenue royalty rate for the group of transactions as summarized in Exhibit 3.

Comparison to the Subject Company (Step 3)

The analyst identified the primary characteristics for comparison between the subject company and the identified transactions, as summarized in Exhibit 4. Based on the facts and circumstances of the subject company (including discussions with management), the analyst completed the characteristic adjustment summary and selected a royalty rate to apply in the RFR method analysis.

Fair Value Measurement (Step 4)

Based on the selected royalty rate of 0.40 percent of revenue, Exhibit 5 presents an example of an RFR

Exhibit 2
Search for CUT Arm's-Length License Royalty Rates

License Effective Date	Gross Revenue Royalty Rate Range		Volume ($/10,000 gallons) Royalty Rate Range		License Term	License Territory	License Exclusivity
	Low	High	Low	High			
4/1/2006			$ 100.00	$ 100.00	2-Year Initial Term	Worldwide	Exclusive
11/2/2000			$ 50.00	$ 70.00	15 Years	North America	Nonexclusive
1/1/2013	0.55%	0.55%			Indefinite	NA	Multi-Exclusivity
2/2/1999	0.33%	0.33%			5 Years	Michigan, Indiana, Ohio, Illinois, Worldwide	Multi-Exclusivity

Exhibit 3
Implied Royalty Rate Range for the Guideline License Transactions

	Gross Revenue Royalty Rate Range		Volume ($/10,000 gallons) Royalty Rate Range	
	Low	High	Low	High
Guideline Royalty Rate Range	0.33%	0.55%	$ 50.00	$ 100.00
2021 Projected Subject Company ($000 revenue or gallons/10,000)	$ 55,500	$ 55,500	2,600	2,600
Annual Royalty Estimate ($000)	183	305	130	260
Implied Revenue Royalty Rate			0.23%	0.47%

Exhibit 4
Primary Trademark and Trade Name Characteristics for Comparison Purposes

Trademark and Trade Name Characteristics	Adjustment	Characteristic Summary		
Age (subject company name over 20 years)	↑	↑	↓	--
Quality (considered similar to competitor offerings)	--	2	1	4
Profitability (similar within the industry)	--			
Market Share (average among competitors)	--			
Name Recognition (well perceived and recognized)	↑			
Geographic Restriction (well known, but limited to its current markets)	↓			
Business Reliance on Name for Growth (not considered to be a primary factor)	--	**0.40% Selected**		

Exhibit 5
Illustrative RFR Method Fair Value Measurement Analysis

			Projected Year Ending December 31,							
			2021	2022	2023	2024	2025	2026	2027	*Terminal*
Valuation Variables:			$000	$000	$000	$000	$000	$000	$000	*$000*
	Annual Revenue Growth		*NA*	*7.4%*	*6.5%*	*6.1%*	*4.2%*	*3.0%*	*2.4%*	*1.5%*
	Projected Company Revenue		55,500	59,600	63,500	67,400	70,200	72,300	74,000	*75,100*
Multiplied by:	Selected Market-Derived Royalty Rate		0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	*0.40%*
Equals:	Projected Annual Royalty Expense Relief		222	238	254	270	281	289	296	*300*
Minus:	Income Taxes @ 21%		(47)	(50)	(53)	(57)	(59)	(61)	(62)	*(63)*
Equals:	Projected Annual Royalty Expense Relief - After Tax		175	188	201	213	222	228	234	*237*
	Discounting Periods (mid-year convention)		0.500	1.500	2.500	3.500	4.500	5.500	6.500	
Multiplied by:	Present Value Factor	13.5%	0.939	0.827	0.729	0.642	0.566	0.498	0.439	
Equals:	Present Value of Interim Royalty Expense Relief		165	156	146	137	126	114	103	

	$000
Sum of Present Value of Interim Royalty Expense Relief	947
Present Value of Terminal Royalty Expense Relief	868
Total Present Value of Royalty Expense Relief	1,815
Fair Value Measurement ($000, rounded)	**1,820**

Calculation of Terminal Value	
	$000
Terminal After-Tax Royalty Expense Relief	237
Divided by: Direct Capitalization Rate	12%
Terminal Value of Royalty Expense Relief	1,978
Present Value Factor	0.439
Present Value of Terminal Royalty Expense Relief	868

method valuation analysis for the identified trade name.

The RFR method summarized above includes a number of underlying assumptions and analyses that are beyond the scope of this discussion. A summary of some of the primary considerations included in the previous calculations includes the following:

- Projected annual revenue provided by company management
- Utilization of the market-derived royalty rate (0.40 percent)
- Estimated income tax rate (21.0 percent)
- Present value discount rate (13.5 percent based on the company's estimated weighted average cost of capital or "WACC")
- Application of a terminal value based on the illustrative assumption indefinite useful economic life for the trade name.
- Terminal value direct capitalization rate (12.0 percent based on the company's estimated 13.5 percent WACC less the estimated long-term growth rate of 1.5 percent)

As presented in Exhibit 5, the RFR method measures the fair value for the trade name, using the assumptions and factors previously described, of approximately $1.8 million.

Summary and Conclusion

ASC Topic 805 requires that identifiable intangible assets acquired in a business combination transaction are to be recognized and reported separately from goodwill.

The PCC accounting alternative provides an exception for qualified companies. The PCC alternative does not require the recognition of (1) customer-related intangible assets that are not capable of being sold or licensed independently from other assets of the business and (2) noncompete agreements.

However, the election of the PCC accounting alternative does not exempt private companies from recognizing all other identifiable intangible assets (e.g., trade names, leases, contract assets, software, etc.) based on the criterion provided in ASC Topic 805.

If a private company elects the PCC accounting alternative under ASU 2014-18, it should also adopt the requirements of goodwill reporting outlined in ASU 2014-02. This requirement allows private companies to amortize goodwill acquired in a business combination on a straight-line basis over 10 years (or fewer years) and potentially reduces the frequency of impairment tests. Impairment tests are required only as a result of a triggering event rather than on at least an annual basis.

Before a private company elects the PCC accounting alternative, the company owners and managers may need to consider the additional effects and ramifications beyond an expected benefit of reduced acquisition-related costs and financial reporting requirements. Such considerations may include the requirements of the users of the financial statements, the potential for future conditions requiring the restatement of historical accounting for acquisitions, and the continuing need to measure the fair value of identifiable intangible assets not specifically excluded as a result of the accounting election.

Note:

1. Brian H. Marshall, "Simplified Accounting for Private Companies: Certain Intangible Assets," National Professional Standards Group (June 2020).

Sources:

1. FASB Accounting Standards Codification, Business Combinations (Topic 805).
2. FASB Accounting Standards Update No. 2014-18, Business Combinations (Topic 805): Accounting for Identifiable Intangible Assets in a Business Combination (December 2014).
3. FASB, "Extending Private Company Accounting Alternatives on Certain Identifiable Intangible Assets and Goodwill to Not-For-Profit Entities" (May 30, 2019).
4. FASB Accounting Standards Update No. 2014-02, Intangibles—Goodwill and Other (Topic 350), Simplifying the Test for Goodwill Impairment (January 2017).

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Private Company Council Accounting Standards Update: Overview of Practical Expedient for ASU Topic 718—Stock Compensation

Michael L. Binz

Efforts to simplify private company financial accounting standards under U.S. generally accepted accounting principles ("GAAP") have progressed, thanks in part to the work of the Private Company Council ("PCC"). The PCC serves as an advisory board to the Financial Accounting Standards Board ("FASB"). The PCC was established in 2012 by the Financial Accounting Foundation to provide guidance on an alternative reporting framework within GAAP for private companies—in response to concerns about the cost and complexity of compliance with GAAP. In August 2020, the PCC proposed a practical expedient for private companies to determine the current share price for stock-based compensation awards under FASB Accounting Standards Update Topic 718—Stock Compensation. This discussion summarizes the history and function of the PCC. And, this discussion describes the recent guidance for the practical expedient proposed by the PCC for private company equity-based share awards.

Introduction

For decades, private company owners and managers have debated the need for different accounting standards for private companies and public companies. One concern expressed by this group was the amount of time and resources required to comply with reporting requirements that may not be relevant to private companies or helpful in company owner decision making.

Many private company financial statement preparers feel the reporting and compliance requirements of U.S. general accepted accounting principles ("GAAP") are primarily intended to keep public company investors informed about the complex financial statements issued by public companies. Such public company financial statements may have little in common with the financial statements of private companies.

In January 2011, a panel of experts submitted a report to the trustees of the Financial Accounting Foundation ("FAF") with recommendations to create a new, separate, and authoritative standard-setting board. That board would establish exceptions or modifications to GAAP for private companies. The recommendations were based on the panel's

"[T]he U.S. accounting standard-setting process has insufficient understanding of the needs of users of private company financial statements."

findings that "the U.S. accounting standard-setting process has insufficient understanding of the needs of users of private company financial statements."[1]

The panel further proposed that the current accounting standards-setting process should recognize and address the needs of users and preparers of private company financial statements in a cost-effective manner.

The Private Company Council ("PCC") initiative was intended to help standard setters consider alternative accounting treatments with respect to the following:

1. The recognition of transactions and events
2. The structure and content presented in private company financial statements
3. Information disclosures
4. The effective dates for applying new reporting requirements

PCC Private Company History and Decision-Making Framework

During 2012, the PCC was established by the FAF as an advisory council (1) to work with the Financial Accounting Standards Board ("FASB") and (2) to provide guidance on an alternative reporting framework within GAAP for private companies. The PCC now plays a more integrated role, with a higher degree of involvement for the overall accounting standards-setting process for private companies.

One of the primary responsibilities assigned to the PCC was to develop a framework, now referred to as the *Private Company Decision-Making Framework*.[2] That framework serves as a guide in determining whether alternatives to existing nongovernmental GAAP are necessary to address the needs of users and preparers of private company financial statements.

In efforts to ensure the framework served its intended purpose, the PCC and the FASB formed a working group of 10 members to advise the PCC and the FASB during the development of the decision-making framework. That working group included (1) private company financial statement users, (2) preparers and auditors, (3) an academic representative, and (4) the Chairman of the Private Company Financial Reporting Committee.

The final version of the *Private Company Decision-Making Framework* guide was issued in December 2013. This final version remained consistent with a focus on the needs of *both* users and preparers of private company financial statements.

The framework addressed five specific areas where financial reporting and guidance may differ between private and public companies. These five areas include the following:

- Recognition and measurement
- Disclosures
- Display (or presentation)
- Effective date
- Transition method

Recognition and Measurement

In evaluating alternative recognition and measurement guidance for private companies, the PCC and the FASB consider the benefits and the costs of possible alternatives after (1) research, (2) outreach to stakeholders, and (3) a public comment period.

In their assessment of private company alternatives for recognition and measurement, the PCC and the FASB also recognized that many alternative methods of recognition and measurement may require modification to current presentation or disclosure requirements.

Disclosures

In determining whether to provide disclosure alternatives for private companies within GAAP, the PCC and FASB consider whether any proposed alternative provides relevant information to the typical users (lenders, other creditors, and investors) of private company financial statements at a reasonable cost.

Presentation

The PCC and FASB believe that, in general, both private companies and public companies should apply the same financial statement presentation guidance. If the presentation is not applicable or relevant to typical private company users, the PCC and the FASB should consider whether private companies are already permitted an exception under existing guidance before providing alternatives. Such existing exceptions included earnings per

share and segment reporting disclosures.

Effective Date

When determining the effective date of adopting amended guidance in an Accounting Standards Update ("ASU"), the PCC and the FASB recognized the resource limitations and learning curve implications for private companies. Based on this, they decided the effective date for private companies should be one year after the first annual period when public companies are required to adopt the amendments.

Method of Transition

In determining the transition method for applying accounting guidance and after evaluating practical expedients, the PCC and the FASB considers whether there is sufficient basis to allow private companies to apply a modified retrospective method.

After the evaluation of practical expedients and the costs and benefits of modified retrospective method alternatives, the FASB and the PCC assess whether the prospective method of transition for private companies will be permitted or required.

The PCC and the FASB believe a private company should be required to disclose in the notes to the financial statements the fact that it has applied an alternative transition method. That disclosure should include qualitative information about how the amendments affect the comparison of its current period financial statements with its prior-period financial statements.

Additional Factors and Observations

In developing the private company decision-making framework, the PCC and the FASB further considered factors that differentiate the financial reporting considerations of private companies from those of public companies.

These factors included (1) the number of primary users, (2) the primary users' access to management, (3) the investment strategies of primary users, (4) the ownership and capital structure of the private company, and (5) the number of accounting resources.

These differentiating factors were developed based on input from private company stakeholders and the FASB's research on private company financial reporting. The FASB concluded that, while the types of financial statements do not vary significantly between private and public companies, the number of primary users of private company financial statements is smaller when compared to the number of users of public company financial statements.

Access to company management is considered easier for most users of private company financial statements. These users primarily include lenders.

In contrast, public company financial statement users include a multitude of investors, securities analysts, lenders, and creditors.

The PCC decision-making framework acknowledges two possibilities for recognition and measurement differences between private companies and public companies. The possibilities include (1) an accounting alternative or (2) a practical expedient.

An "accounting alternative is a different method for recognizing or measuring a transaction or an event, whereas a practical expedient is a more cost-effective way of achieving the same or a similar accounting or reporting objective." [3]

Since its establishment, the PCC has released alternative private company accounting guidance with respect to ASUs for the following topics:

- FASB ASU No. 2014-02, Intangibles—Goodwill and Other (Topic 350): Accounting for Goodwill
- FASB ASU No. 2014-03, Derivatives and Hedging (Topic 815): Accounting for

"Since most private company equity shares are not actively traded, determining the current share price is more complicated than it is for public companies."

Certain Receive-Variable, Pay-Fixed Interest Rate Swaps—Simplified Hedge Accounting Approach

- FASB ASU No. 2014-07, Consolidation (Topic 810): Applying Variable Interest Entities Guidance to Common Control Leasing Arrangements
- FASB ASU No. 2014-18, Business Combinations (Topic 805): Accounting for Identifiable Intangible Assets in a Business Combination
- FASB ASU No. 2018-07, Stock Compensation (Topic 718): Accounting for Compensation—Stock Compensation

These updates were all considered as cost-effective accounting alternatives for private companies. These alternatives are not expected to negatively affect the usefulness of the financial information presented.

In particular, although the guidance in ASU 2018-07 Stock Compensation was generally viewed as an improvement and simplification to employee share-based payment accounting, many private company stakeholders continued to express concerns about the cost and complexity of this ASU.

The remainder of this discussion focuses on the implications of the recent practical expedient issued with regard to ASU 2018-07.

Private Company Council Guidance Topic 718—Stock Compensation

In response to private company concerns about the updated and simplified accounting guidance for stock compensation in ASU 2018-07, in August 2020, the PCC issued an exposure draft entitled *Determining the Current Price of an Underlying Share for Equity Classified Share-Option Awards*.

This exposure draft was issued for public comment on the practical expedient proposed for private companies and the accounting treatment for employee stock compensation. The public comment period for the exposure draft remained open through October 1, 2020.

Since most private company equity shares are not actively traded, determining the current share price is more complicated than it is for public companies. Most public companies have observable market prices for their equity shares which trade on an established securities market.

Because the fair value of stock-option awards is most often estimated using an option pricing model, many private companies require outside assistance from a qualified appraiser to estimate a current share price for the equity shares underlying the stock awards. The practical expedient proposed in the exposure draft provides some relief to private companies.

According to the practical expedient outlined in the exposure draft, a nonpublic entity can determine the current price input of equity-classified share-option awards issued to both employees and nonemployees using a valuation method performed in accordance with the Internal Revenue Code Section 409A. The Section 409A regulations provide guidance with regard to valuation methods to comply with the presumption of reasonableness requirements.

The valuation methods prescribed in Section 409A regulations for stock not readily tradeable on an established securities market include the following:[4]

- A valuation of a class of stock determined by an independent appraisal that meets the requirements of Section 401(a)(28)(C) and the related regulations as of a date that is no more than 12 months before the relevant transaction to which the valuation is applied.
- A valuation based on a formula that, if used as part of a nonlapsing restriction (as defined in regulation section 1.83-3(h)) with respect to the stock, would be considered to be the fair market value of the stock pursuant to regulation section 1.83-5.
- A valuation made reasonably in good faith and evidenced by a written report that considers the relevant factors (described in paragraph (b)(5)(iv)(B)(1) of Section 409A) of illiquid stock of a start-up corporation at a time that the corporation did not otherwise anticipate a change in control event or a public offering of the stock.

In the exposure draft, the PCC also concluded that the proposed accounting standards update

is not applicable for liability-classified awards. This was because liability-based awards must be remeasured at the end of each reporting period.

Section 409A also contains significant tax penalties for share-option awards that are issued in the money (the current price is greater than the exercise price). To alleviate some of this risk, many private companies obtain independent valuations prepared in compliance with Section 409A when share options are awarded or when stock-option awards are modified.

It should be noted that the measurement objective for the current share price defined in ASU Topic 718, is fair value. The practical expedient proposed by the PCC involves using a Section 409A valuation method to conclude fair market value.

Although the valuation methods used to measure fair value and to estimate fair market value are similar (and many times the same), the definitions of fair value and fair market value are different.

ASC Topic 820 defines fair value as 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.[5]

The definition of fair market value frequently applied in the tax-related valuation of private companies is defined in Revenue Ruling 59-60 which states that fair market value is the price at which property would change hands between a willing buyer and a willing seller when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of relevant facts.[6]

Summary and Conclusion

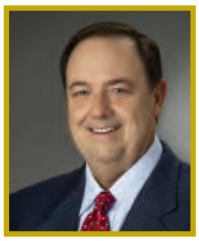
The PCC has made significant progress in addressing concerns raised by private companies about the cost and complexity of compliance with GAAP.

This discussion summarized (1) the history of the PCC (2) its role in the accounting standards-setting process as an advisory body to the FASB, and (3) the PCC decision making framework for determining whether (and in what circumstances) alternatives within GAAP are warranted for private companies.

This discussion also described the recent accounting standards update from the PCC and the FASB regarding the use of a practical expedient for private companies to determine the current price of an underlying share for equity classified share-option awards. The FASB and the PCC have taken a big step forward to provide cost-saving alternative accounting treatment for private companies.

Notes:

1. Financial Accounting Foundation Board of Trustees, Establishment of the Private Company Council (Norwalk, CT: May 30, 2012).
2. *FASB In Focus* (December 2013): 1.
3. FASB Exposure Draft Compensation—Stock Compensation (Topic 718) Determining the Current Price of an Underlying Share for Equity-Classified Share-Option Awards (August 2020).
4. Internal Revenue Code Section 409A
5. FASB ASC Topic 820.
6. Revenue Ruling 59-60, 1959-1 CB 237.



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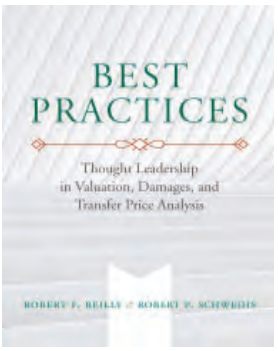
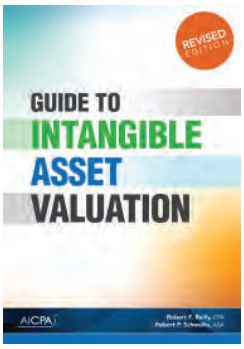
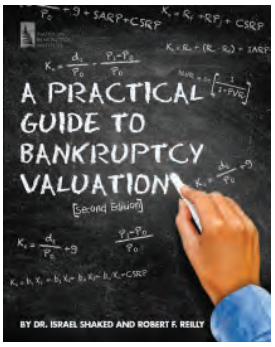
Valuation Textbooks Authored by Robert Reilly and Robert Schweihs







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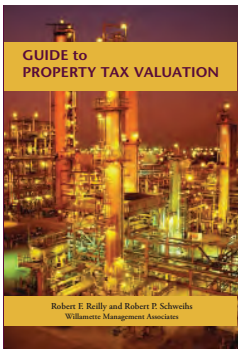

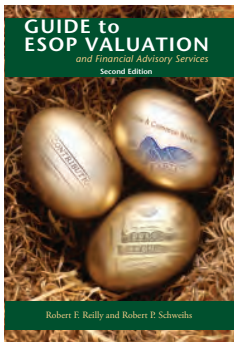

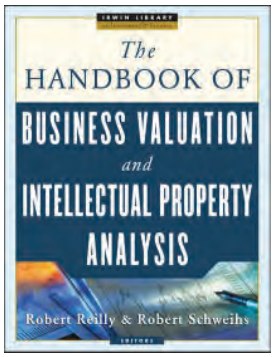

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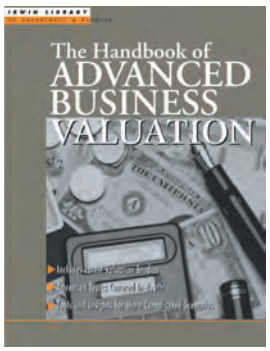

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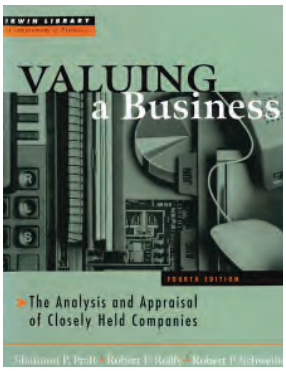

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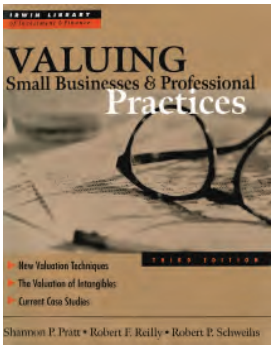

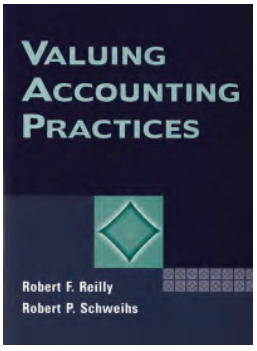

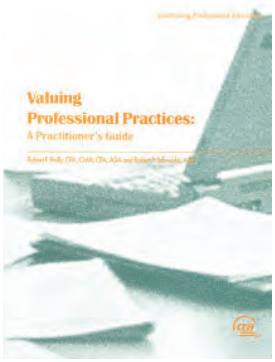

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Selection and Adjustment of CUT Royalty Rates in the Relief from Royalty Method Valuation Analysis

Nathan P. Novak

The relief from royalty ("RFR") method is one of the generally accepted income approach methods of intangible asset valuation. One of the components of the RFR method involves the analyst's selection of an appropriate arm's-length royalty rate. There are several generally accepted methods that an analyst may apply in the estimation of that arm's-length royalty rate. One of the generally accepted methods involves the analysis of so-called comparable uncontrolled transactions, or "CUTs." This discussion summarizes the generally accepted procedures related to the identification, selection, and adjustment of CUT intangible asset license agreements in the application of the RFR valuation method.

Introduction

Several generally accepted methods are available for the valuation of intangible assets and intellectual property. These methods are typically aggregated in three groups, or "approaches" to intangible asset valuation.

The three generally accepted approaches to intangible asset valuation are (1) the market approach, (2) the income approach, and (3) the cost approach.

This discussion focuses on aspects of the application of the relief from royalty method, which is a generally accepted income valuation approach method. In particular, this discussion focuses on the application of an important component of the relief from royalty method—the identification, selection, and adjustment of a market-derived royalty rate.

First, this discussion summarizes the relief from royalty ("RFR") method and some of the ways that an analyst may estimate a royalty rate to apply in that method. Second, this discussion summarizes the comparable uncontrolled transaction ("CUT") method to select the RFR method royalty rate. This discussion describes the application and considerations involved in that royalty rate selection method. Finally, this discussion presents an illustrative example of the selection of an arm's-length royalty rate using the CUT method.

The Relief from Royalty Method

The RFR method is one of several income approach methods to value intangible assets. Other income approach methods include the following:

- The capitalized excess earnings method
- The multi-period excess earnings method,
- The with and without method

A description of these other intangible asset income approach valuation methods is beyond the scope of this discussion.

The RFR method is based on the premise that the value of an intangible asset relates to the expense that the intangible asset owner avoids by owning the asset—instead of inbound licensing that asset.

In the RFR method, an estimate is made of the royalty rate that would be negotiated in an arm's-length transaction if the subject intangible asset were inbound licensed from an independent third party. The royalty expense savings ("relief") is calculated by multiplying a royalty rate, often expressed as a percentage of revenue times a determined royalty base (i.e., often the level of future revenue).

The application of the RFR method typically involves the following procedures:

- Understanding the subject intangible asset, including its primary characteristics, its intended use, its marketplace and industry applications, its useful economic life, and other relevant factors
- Researching and identifying guideline arm's-length license transactions to apply in the analysis
- Estimating a market-based hypothetical inbound license royalty rate to apply to the subject intangible asset
- Identifying financial projections often prepared by company management) for the subject intangible asset, and then applying the selected market-based royalty rate to those financial projections
- Estimating the appropriate income tax rate and required rate of return for the subject intangible asset (i.e., the present value discount rate)
- Incorporating the above projections and analyses to apply the relief from royalty method and estimate the value of the subject intangible asset (other adjustments may be appropriate, such as a tax amortization benefit adjustment)

As with all income approach property valuation methods, the RFR method is predicated on the present value of a future income stream—in this case, an income stream based on estimated royalty expense relief associated with owning the intangible asset.

There are several methods that may be applied to help the analyst select a market-derived hypothetical inbound license royalty rate. The following descriptions summarize three generally accepted methods to estimate a market-derived inbound license royalty rate:

- Comparable Uncontrolled Transaction ("CUT") Method—The hypothetical inbound license royalty rate is estimated by comparing the subject intangible asset to comparable intangible assets that have been transacted (i.e., licensed) during a reasonably recent period of time.
- Comparable Profits Method ("CPM")—The royalty rate for the subject intangible asset is estimated by comparing a selected profitability metric of guideline companies to the same profitability metric of the subject company. If the guideline companies derive profits from multiple intangible assets and other business lines, then the analysis would involve determining the profitability metric of the comparable intangible asset.

  This guideline company and guideline intangible asset profitability metric would then be used to assess the hypothetical inbound license royalty rate of the subject intangible asset.
- Profit Split Method—The hypothetical inbound license royalty rate of the subject intangible is estimated by examining the operating profits of the two parties to an intellectual property/intangible asset license agreement and "splitting" the profits based on the relative contributions of the intellectual property/intangible asset to the two constituent parties.

As implied above, many of the methods to estimate a royalty rate involve a selection and analysis of guideline companies—or guideline intangible assets. In this way, although the RFR method is an income approach method, it often incorporates components of empirical, market data through the selection and application of the royalty rate within the analysis.

The following section focuses on the application of the CUT method to estimate an intellectual property/intangible asset arm's-length inbound license royalty rate.

Estimating a Royalty Rate Using the CUT Method

The CUT method is often considered by analysts when selecting a royalty rate to apply in the RFR method. The CUT method is often appropriate if transactions exist in the marketplace (typically arm's-length license transactions) that are sufficiently

comparable to the attributes and benefits associated with the subject intangible asset.

The first procedure in the application of the CUT method involves researching and identifying arm's-length license transactions involving intangible assets that are sufficiently comparable to the subject asset. The analyst typically starts by conducting a broad search of third-party license transactions.

Analysts may rely on commercial intellectual property license databases, such as the RoyaltySource database and the ktMINE database, to screen for potential CUTs to use in the analysis.

These commercial intellectual property license databases typically allow the analyst to filter through license transactions using various search criteria. These commercial databases often provide details on the arm's-length, third-party license agreements, in addition to the full text of the license agreements.

Some of the screening criteria or comparable characteristics the analyst may consider when searching through a commercial license database are presented below:

- Limiting the search to agreements involving the licenses of intangible property similar to the subject intangible asset (e.g., if the subject intangible asset is enterprise software, the analyst may limit the search to third-party licenses of software)
- Limiting the searches to license agreements that involve intangible property in a similar industry (e.g., if the subject intangible asset is primarily used in the medical profession, the analyst may limit the search to the health care industry)
- Limiting the searches to license agreements that involve nonrelated parties as the licensor and licensee
- Limiting the searches to license agreements that involve intangible property located in (or being licensed to) a certain geographic area or region
- Limiting the searches to agreements that involve royalty rates based on a certain metric (e.g., if the analyst intends to select and apply a royalty rate based on projected revenue, the analyst may limit the search to encompass only third-party license agreements that involve revenue-based royalty rates)

The above list is not exhaustive—there may be several other characteristics that analysts may wish to filter based on the specific facts and circumstances surrounding the subject intangible asset.

Further, the search for CUTs is often influenced by the prevalence of third-party license transactions in the intangible asset's industry or marketplace. For example, if the intangible asset is a trademark in an industry where trademark licenses are typical, then the analyst may be able to be more specific and targeted in the commercial license agreement database searches.

Depending on the specificity of the initial screening criteria, the analyst identifies a certain number of preliminary CUTs. The analyst likely then conducts further due diligence (either by reading through detailed descriptions of each identified license transaction or by reading through a copy of the actual third-party license agreement).

Once the analyst has selected the CUTs to apply in the analysis, the next procedure involves a comparison of the selected third-party license transactions to the intangible asset. For example, let's say the analyst selected a group of eight CUTs that were considered to be sufficiently similar to the intangible asset so as to provide meaningful valuation guidance.

Despite those eight selected licensing transactions being potential CUTs, there may still be certain differences between each CUT and the subject intangible asset. In addition, intellectual property/intangible asset license transactions can be customized in their pricing structure, and the analyst may want to understand the financial terms of each selected CUT.

After selecting CUTs, the analyst often performs a comparative analysis of each CUT intangible property to the subject intangible asset. This procedure often involves a qualitative and quantitative analysis comparing the terms and characteristics of the various CUT intangible property to the characteristics of the subject intangible asset.

Exhibit 1 presents a nonexhaustive list of some typical characteristics that the analyst may consider when reviewing each CUT in comparison to the subject intangible asset. This analysis may help the analyst select a hypothetical inbound license royalty rate for the intangible assets in relation to the range of royalty rates indicated by the CUTs.

For example, let's say each of the eight selected CUT licenses incorporates a bundle of assets (e.g., the CUTs may all involve trademark licenses, but each involves the license of multiple trademarks). In contrast, let's assume the subject intangible asset is only one specific trademark.

Exhibit 1
Characteristics That Can Affect Intangible Property Third-Party License Royalty Rates

Type of Intangible Property Attribute/Characteristic	Positive Influence on the License Royalty Rate	Negative Influence on the License Royalty Rate
Bundle or Single Asset	License includes a bundle of assets	License is for a single asset
Term of License (number of years)	License is for a long time period	License is for a short time period
License Exclusivity	License is exclusive	License is nonexclusive
License Territory	License allows use in many territories (e.g., worldwide)	License allows use in few territories (e.g., a single state)
Up-Front Fees	License excludes up-front or fixed fees (i.e., with the up-front fees, the royalty rate may have been lower)	License includes up-front or fixed fees (i.e., without the up-front fees, the royalty rate may have been greater)
Other Costs/Commercial Readiness	Licensee may need to incur additional direct costs to further develop or commercialize the licensed asset	Licensee will not need to incur additional direct costs beyond any up-front fees and royalty payments
Market/Industry Use	Licensed asset is used in a relatively more lucrative market or industry	Licensed asset is used in a relatively less lucrative market or industry
Quality of Asset	Licensed asset is perceived as a superior product	Licensed asset is perceived as an inferior product
Timeliness of Asset	Licensed asset is perceived as modern and new	Licensed asset is perceived as old

All else being equal, this factor would suggest the analyst would select a relatively lower royalty rate for the subject asset. That is because licensors may be willing to pay a greater royalty rate for the license of multiple trademarks (i.e., the licenses for the CUTs), compared to a license of a single trademark (i.e., the intangible asset).

The analyst considers a number of factors and conducts the comparative analysis between (1) the characteristics of the CUT licenses and the licensed intangible assets and (2) the characteristics of the subject intangible asset.

Depending on the results of that analysis, the analyst should then have support for selecting a royalty rate in relation to the range of royalty rates indicated by the CUTs. For instance, if the analyst determines that the intangible asset overall has more negative economic attributes relative to the CUTs, the analyst may select a royalty rate toward the lower end of the range indicated by the third-party license CUTs.

The analyst should understand the circumstances or complexities involved with the pricing structure of each CUT. That is, some license transactions may be relatively straightforward and include fee structure based on a single royalty rate for the entirety of the license term, with no other financial considerations. However, some license transactions may involve both a royalty rate component as well as a fixed cost or up-front fee component.

For example, a licensee may be required to pay the licensor $1 million up-front in addition to a royalty rate that is based on 3 percent of net sales for products sold using the licensed trade name. In those cases, the analyst should understand how the additional fee components may have affected the agreed upon third-party license royalty rate.

Finally, third-party license agreements may change the royalty rates throughout the license term based on certain milestones (e.g., the royalty rate may change halfway through the license term, or it may change based on reaching certain sales milestones). In those instances, the analyst should understand how the range of royalty rates may affect the analysis.

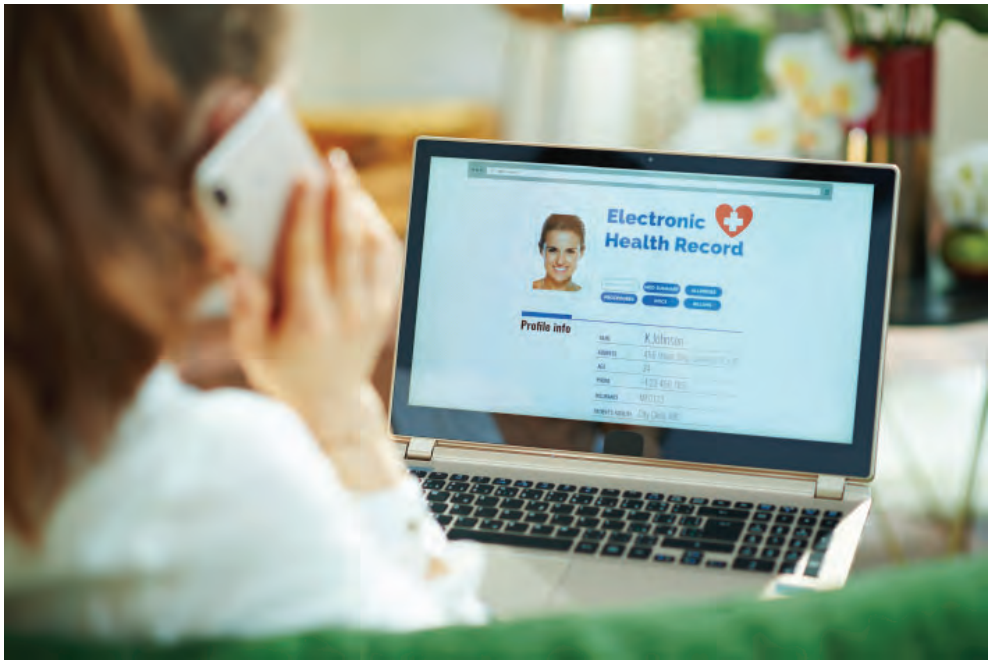
The analyst may present each CUT based on the high royalty rate included in the license agreement and the low royalty rate included in the license agreement.

For instance, if a license agreement calls for a royalty rate of 6 percent in the first year, 4 percent in years two through four, and 1 percent in each year thereafter, the analyst may present the "low" royalty rate for that CUT as 1 percent and the "high" royalty rate for that CUT as 6 percent.

The analyst may analyze the average or median of both the indicated "low" royalty rates and "high" royalty rates to narrow down a selection range to apply to the intangible asset.

In addition to presenting the high and low royalty rates, the analyst may select a representative royalty rate for each CUT. For example, let's say a license agreement with a 15-year term has a royalty rate of 10 percent of sales for the first year of the agreement and 2 percent for the next 14 years of the agreement.

The analyst may indicate the representative royalty rate being a weighted average of approximately 2.5 percent, since all but one year of the license agreement uses that relatively lower royalty rate.



Illustrative Example

This discussion presents an illustrative example of the process that an analyst may go through to select a hypothetical inbound license royalty rate to apply in the RFR method.

Let's assume that the analyst estimates the fair value of a bundle of enterprise software and related assets that was developed and owned by a hospital group.

The bundle of assets includes various systems and documentation that, together, encompass a suite of software that a hospital may use to manage numerous aspects of day-to-day administration. These functions include patient health record storage and analysis, payment processing and insurance interface, physician and staff scheduling, risk analysis, payroll processing, and other administrative functions.

In addition, the analyst discovers through the course of due diligence that the subject software is currently only usable in the United States. It would require significant additional development and customization to be compatible with hospital groups in other countries.

While it is not currently feasible to use in other countries, the analyst understands that it would not require significant additional development costs for it to be usable by other U.S.-based hospitals.

Finally, the analyst learns that the subject software (1) was developed recently (it was developed over the course of three years and was only just completed less than a year ago) and (2) is considered to be cutting edge and of high quality in the marketplace.

The analyst was provided a set of financial projections that include a projection of hospital revenue that assumes the use of the subject software. The analyst decides to apply the RFR method in the valuation of the software intangible property.

In order to select a hypothetical inbound license royalty rate to apply in the analysis, the analyst first performs various license transaction searches using several commercial intellectual property license databases.

The analyst performs searches based on the following criteria:

1. Agreements involving licenses of software and relates assets
2. Agreements containing the keywords "health care," "hospital," or "medical" within the description
3. Agreements that involved the health care industry
4. Agreements that involve nonrelated parties as licensee and licensor
5. Agreements that involve royalty rates based on either net revenue or gross revenue.

Based on those screening criteria, the analyst identified 20 potential license transactions from the commercial database searches. The analyst then analyzed the terms and descriptions of each license transaction. From that analysis, the valuation analyst excluded a number of transactions.

For example, even though the 20 potential license transactions all contained the initial screening

criteria, there were several that specifically involved software that was used by health insurers, rather than hospitals. And, there were several more that, upon further analysis, included the license of additional assets (such as trademarks, trade names, and technology patents) such that the analyst determined they were not sufficiently similar to the subject software.

After that additional screening, the analyst selected six arm;s-length license transaction that were suitable to use as CUTs. Exhibit 2 presents a summary of the royalty rates for each of the six selected CUTs.

As presented above, the analyst reviewed the range of both the high and low royalty rates indicated by the CUTs. In addition, for each CUT, the analyst selected a "representative" royalty rate based on a review of the specific terms of each license. Overall, the selected CUTs have license royalty rates ranging from 3 percent of revenue to 12 percent of revenue.

During the course of the assignment, the analyst may perform an in-depth analysis of each selected CUT.

In addition to identifying the royalty rate (or royalty rates) attached to each license agreement, the analyst may want to understand (1) additional terms and characteristics associated with both the license agreement and the licensed intangible property and (2) how those terms and characteristic compare to the subject intangible asset.

Exhibit 3 presents an example of how an analyst may organize and present the comparative analysis for one of the sample CUTs license agreements.

Based on the analysis of each license agreement, the analyst noted the following characteristics for the selected CUT intangible property—relative to the subject software:

- Each of the six CUTs were for worldwide licenses. In contrast, the subject software is only expected to be used within the United States. This factor indicates an inbound license royalty rate for the subject software that may be on the lower end of the indicated range.
- The six CUTs contained a mix in terms of modernity and functionality of the licensed software. Most of the CUTs involved soft-

Exhibit 2
Illustrative CUT License Agreement Analysis
Indicated Range of Arm's-Length Royalty Rates Based on the Selected CUTs

CUT License Agreement #	Arm's-Length License Agreement Royalty Rate: Low (% of Revenue)	High (% of Revenue)	Representative (% of Revenue)	Analyst's Comments
1	5.0	5.0	5.0	Royalty rate is set at 5% for the duration of the lease agreement.
2	5.0	10.0	7.5	Royalty rate of 10% for first $1 million of revenue each month, and 5% for all sales over $1 million. Average royalty rate would likely fall in between the high and the low.
3	4.0	4.0	5.0	Royalty rate is set at 4% for the duration of the license agreement.
4	8.0	8.0	8.0	Royalty rate is set at 8% for the duration of the license agreement.
5	3.0	10.0	3.5	Royalty rate of 10% in first year, 5% in second year, and 3% in each years 3 through 10. Average royalty rate would likely be near the low.
6	5.0	12.0	9.0	Royalty rate of 6% for first 200 users, stepping up to 12% for 501 or more users. Average royalty rate would likely fall between the high and the low.

Range of License Agreement Royalty Rates (as a % of revenue):

Low	3.0	4.0	3.5
High	8.0	12.0	9.0
Average	5.0	8.2	6.3
Median	5.0	9.0	6.3

Exhibit 3
Sample License Agreement Analysis
For "License A" in the Illustrative Example

Company Criteria	Comparability Criterion Description	Comparability to the Subject Intangible Assets and Other Analyst Notes
License agreement synopsis	License agreement between two unrelated entities involving a worldwide license to software programs and related technology known as the Hospital Management System.	
Intellectual property bundle/single	Bundle—includes several pieces of software and related technology.	The subject asset is also a bundle of software and related assets.
Licensor	Licensor ABC, Inc.	
Licensee	Licensee XYZ, LLC	
Type of license	Software programs and related technology	The subject asset is also a bundle of software and related assets.
License	"Hospital Management System"	
Products	The Hospital Management System is a suite of software that allows hospital groups to manage every facet of patient interaction. The Hospital Management System can record and track encounters between patients and health care providers for performance evaluation and maintenance of records. The software is able to manage patient records, in addition to providing interfaces to allow approval and processing of payments. There are other functions as well, such as physician and staff payroll processing and other administrative functions. The Hospital Management System was first developed in 1999, although there have been periodic updates to the software since then.	The subject asset also involves business enterprise software that is used for health-care-related administrative functions. However, the subject assets are newly developed and a modern, cutting-edge system, whereas the Hospital Management System may be considered less modern since it was first created over 20 years ago.
Market	Health care	The subject asset is also used in the health care industry.
Beginning date	November 2005	
Expiration date	November 2015	
Exclusivity	Exclusive	Licensors may charge greater royalty rates for exclusive use of licensed assets
Territory	Worldwide	The subject asset is limited to markets in the U.S.
Payment	Royalty rate of 5 percent of monthly net sales throughout the 10-year term of the license agreement	Flat royalty rate, so representative royalty rate for this license agreement is 5 percent
Other fees	Yes, up-front fee of $500,000 cash	Licensors may charge lower royalty rates if there are additional up-front fees involved
Royalty rate range and representative royalty rate	5 percent—based on the terms of the license, there is a flat royalty rate based on net revenue	
Other comments [a]	The Hospital Management System is comparable to the subject assets in that both are business enterprise software that are used for health-care-related administrative functions. However, the Hospital Management System license is a worldwide license, unlike the subject asset, which is likely limited to use inside the U.S. However, the up-front fees associated with the Hospital Management System license may indicate the royalty rate of 5 percent is understated (i.e., without an up-front fee, the licensor may have charged a higher royalty rate). In addition, the subject asset is likely more modern and of higher quality than the Hospital Management System. Overall, those factors indicate a reasonable royalty rate for the subject asset may be slightly higher than the rate attached to the Hospital Management System license.	
Source	RoyaltySource database and SEC Form 10-K, Licensor ABC, Inc., 2/13/2006	

[a] This analyst estimate is based on an analysis of the terms of the license agreement.

ware that was relatively newly developed and appeared to have similar (or even greater) functionality than the subject software. Some of the CUTs involved software that was a few years old and may be considered less modern than the subject software.

Overall, this factor is relatively neutral and indicates the inbound license royalty rate for the subject software may be towards the middle of the indicated range.

- Five of the six CUTs contained a certain amount of up-front fees in addition to the indicated royalty rates. This indicates that many of the indicated royalty rates may be slightly understated, since in the absence of those up-front fees, the licensor likely would have demanded relatively higher royalty rates as compensation.

  This factor indicates an inbound license royalty rate for the subject software that may be on the higher end of the indicated range.

- Each of the six CUTs included a bundle of software and related intangible property, similar to the subject software. Accordingly, this is a neutral factor and indicates the inbound license royalty rate for the subject software may be towards the middle of the indicated range.

After performing the above illustrative analysis, the analyst concluded that, overall, the mix of positive, negative, and neutral factors indicates that the inbound license royalty rate for the subject software is likely to be towards the middle of the range indicated by the CUTs.

Based on the specific features of several of the CUTs, the analyst determined that the representative royalty rates are more informative than the indicated high or low royalty rates for each CUT. Accordingly, the analyst primarily considered the average and median of the representative royalty rates as being most indicative of a hypothetical inbound license royalty rate for the subject software.

Ultimately, the analyst selected a royalty rate of 6.5 percent of net revenue to apply in the RFR valuation method analysis. The analyst applied that 6.5 percent royalty rate—in combination with a set of revenue projections, a selected income tax rate, and a selected present value discount rate—to measure the fair value of the subject software.

Summary and Conclusion

The RFR method is a generally accepted intangible asset income approach valuation method. One of the components of the RFR method involves the selection and application of a hypothetical inbound license royalty rate.

There are several generally accepted methods that may be used to select the hypothetical inbound license royalty rate. One of the methods is the comparable uncontrolled transaction (or CUT) method.

This discussion summarized the various procedures and considerations involved with the application of the CUT method to select an arm's-length inbound license royalty rate. The CUT method is often applicable as long as the analyst is able to identify arm's-length license transactions that are sufficiently comparable to the subject intellectual property/intangible asset.

Applying the CUT method, the analyst performs several analyses, including a search for arm's-length license transactions, an analysis of those transactions relative to the subject intangible property and, importantly, an analysis of the royalty rate indicated by each license transaction.

In addition to the CUT method, there are other methods that an analyst may apply in the selection of an arm's-length inbound license royalty rate in the application of the RFR method. In order to further support a selected royalty rate, it may be possible for the analyst to apply multiple methods in an attempt to corroborate the royalty rate selection.

Finally, although this discussion focused on the CUT method in the context of the RFR method, a CUT analysis may also be applied to estimate a royalty rate for other purposes.

The CUT method may also be applied to estimate a royalty rate for a domestic intercompany transfer pricing analysis, an international intercompany transfer pricing analysis, or any number of situations where a company or investor may need to estimate an royalty rate within the context of a valuation, damages, or transfer price analysis.

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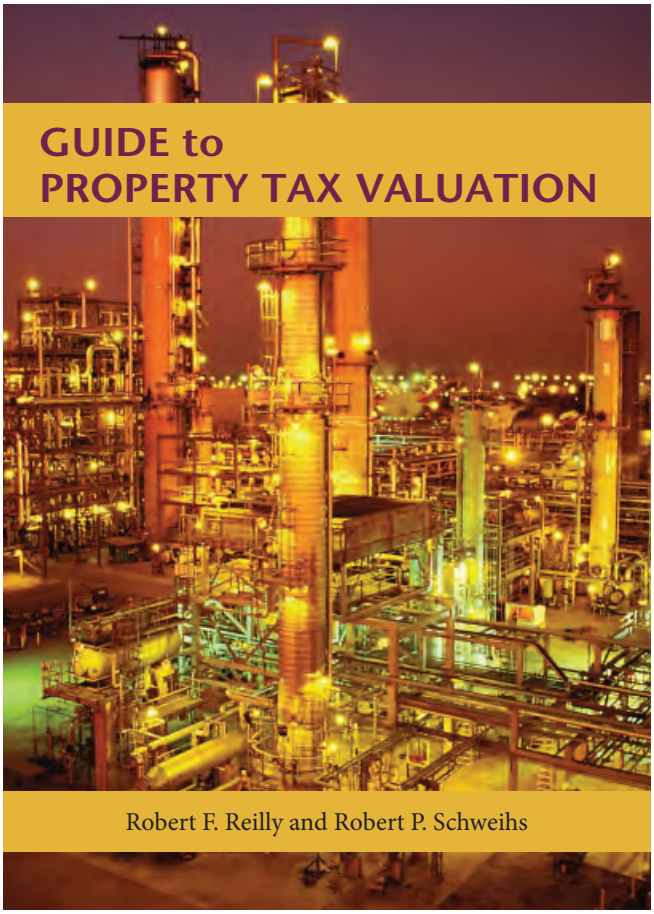

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GUIDE TO PROPERTY TAX VALUATION

Robert F. Reilly and Robert P. Schweihs

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Application of the Tax Amortization Benefit Valuation Adjustment

Lisa H. Tran and Travis C. Royce

The so-called tax amortization benefit ("TAB") adjustment represents the present value of the federal income tax savings resulting from the tax amortization of an acquired intangible asset over a statutory period. Internal Revenue Code Section 197 allows the cost of certain acquired intangible assets to be amortized for federal income tax purposes. However, not all acquired intangible assets are subject to such amortization tax deductions. Analysts should apply the so-called TAB adjustment to an intangible asset valuation analysis only when it is appropriate. This discussion summarizes what analysts should know before applying the TAB adjustment to an intangible asset valuation analysis.

Introduction

For U.S. federal income tax purposes, an acquirer company may retain a valuation analyst ("analyst") to perform a purchase price allocation of a business transaction that was structured as an Internal Revenue Code Section 1060 asset acquisition.[1] Such an acquisition purchase price allocation may also be appropriate in certain stock acquisitions, if the acquirer entity makes appropriate elections under Section 336(e)[2] or 338(h)(10).[3]

The Financial Accounting Standards Board Accounting Standards Codification ("ASC") Topic 805, *Business Combinations*, provides U.S. generally accepted accounting principles ("GAAP") guidance related to the accounting for business combinations. Under ASC Topic 805, the acquirer recognizes the identifiable intangible assets acquired in a business combination separately from goodwill.

ASC Topic 805-20 provides two criteria related to the recognition of identifiable intangible assets in an acquisitive transaction accounted for as a business combination: (1) the accounting for a business combination separability criterion (i.e., can the acquired intangible asset be separated or divided) or (2) the contractual-legal criterion (i.e., does the acquired intangible asset arise from contractual or other legal rights).

The appropriate standard of value for the GAAP financial accounting for a business combination is fair value. Fair value is defined in ASC Topic 820, *Fair Value Measurement*, as 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.

ASC Topic 805-20 lists the following categories of so-called identifiable intangible assets:

1. Marketing-related intangible assets (e.g., trademarks, service marks, noncompetition agreements, etc.)
2. Customer-related intangible assets (e.g., customer lists, customer contracts, customer relationships, backlogs, etc.)
3. Artistic intangible assets (e.g., books, plays, musical works, photographs, etc.)
4. Contract-related intangible assets (e.g., leases, licenses, royalty agreements, etc.)

"The TAB adjustment is a procedure that is considered in the GAAP fair value measurement of intangible assets acquired in a business combination transaction."

5. Technology-related intangible assets (e.g., patented and unpatented technology, trade secrets, etc.)

For federal income tax purposes, acquirers may amortize the cost of many purchased intangible assets (i.e., Section 197 intangible assets) over a statutory 15-year amortization period. The amortization tax deduction related to the purchased intangible asset results in a tax expense saving for the acquirer.

An analyst may incorporate a so-called tax amortization benefit ("TAB") adjustment into an intangible asset valuation developed by the application of the income approach.

The TAB adjustment is a procedure that is considered in the GAAP fair value measurement of intangible assets acquired in a business combination transaction. When applying the TAB adjustment in the income approach valuation or fair value measurement of these identifiable intangible assets, the analyst may consider the following:

- Which acquired assets qualify as Section 197 amortizable intangible assets
- What valuation methods are appropriate for the application of the TAB
- Whether the subject acquisition transaction is a taxable transaction
- Would Section 197 or a similar law apply in an international business combination

There is a diversity of practice in the application of the TAB adjustment in intangible asset analyses performed for fair value measurement purposes. When applying the TAB adjustment in an income approach valuation analysis, the analyst should consider all the issues listed above to ensure that the TAB is properly applied.

History of the TAB

Congress passed Section 197 as a solution to resolve the historical issue of acquired intangible assets acquired in a taxable business combination transaction. This legislation eliminated disputes between acquirers and the Service related to the allocation of the purchase price in certain transactions between acquired goodwill and other acquired intangible assets.

Pursuant to Section 197, most acquired intangible assets are allowed the same income tax treatment, and the useful life of purchased intangible assets is set at a uniform 15-year cost recovery period.

Section 197 allows acquirers to amortize and deduct the cost of most intangible assets purchased on or after August 11, 1993, beginning with the month in which the intangible asset is acquired. In addition, Section 197 allows the amortization of acquired goodwill in certain circumstances.

Not all identifiable intangible assets qualify as Section 197 amortizable intangible assets. Further, not all Section 197 intangible assets are amortizable.

According to Section 197(d)(1), "Section 197 intangible assets" include the following:[6]

- Goodwill
- Going-concern value
- Any of the following: (1) workforce; (2) business books and records, operating systems (including customer lists); (3) patents, copyright, formulas, processes, designs, patterns, know-how, and formats; (4) customer-based intangibles; and (5) supplier-based intangibles
- Any license, permit, or other rights granted by a government agency
- Any covenant not to compete entered into in connection with the acquisition of a business
- Any franchise, trademark, or trade name

In general, Section 197 intangible assets means any Section 197 intangible asset (1) that is acquired after August 10, 1993, and (2) that is used in a trade or business.

Amortizable Section 197 intangible assets exclude any Section 197 intangible assets created by the taxpayer (i.e., a self-created intangible). A self-created intangible asset is created by the taxpayer if the taxpayer makes payments or incurs costs for its creation or improvement.

It does not matter whether the taxpayer performed the development work himself/herself, or a third party under contract with the taxpayer performed the work. If the taxpayer signed a contract with the developer before development, or

improvement of the intangible asset began, then it is considered a self-created asset.

The following list presents exceptions to self-created intangible assets. These intangible assets are amortizable under Section 197.[7]

1. Licenses, permits, or other rights granted by a government unit
2. Covenants not to compete
3. Franchises, trademarks, and trade names

For example, capitalized costs incurred in the development, registration, or defense of a trademark are amortizable under Section 197.

The following self-created intangibles are not amortizable intangible assets:[8]

1. Any Section 197 intangible created in connection with the purchase of a trade or business
2. Any re-acquired intangible asset
3. A property to which anti-churning rules apply

Anti-churning provisions do not allow amortization deductions for goodwill and similar intangible assets held by the seller that were not amortizable prior to the enactment of Section 197. Churning is a process in which a taxpayer would sell assets to himself/herself, or a related party (i.e., a paper transaction) to create a new tax amortizable asset that would not have been amortizable under previous regulations, in order to take advantage of the tax benefit.

The TAB Adjustment Example

When an intangible asset can be amortized as a deduction for federal income tax purposes, the income approach implied value of that intangible asset may be enhanced by the present value of the future income tax savings derived from the amortization of the asset (i.e., the so-called TAB adjustment factor).

Since the inception of Section 197, the so-called TAB adjustment factor has been a consideration in the valuation of certain intangible assets. The TAB factor is typically added as a value increment adjustment to the estimated, unadjusted income approach value of the intangible asset.

The inputs to the TAB adjustment factor calculation include (1) a present value discount rate, (2) a income tax rate, and (3) the number of years for which the tax deduction is effective.

The TAB adjustment factor is often measured using the formula presented in Exhibit 1.[9]

In the selection of the present value discount rate, the analyst may determine if the risk of the TAB is (1) closely aligned with the risk of the underlying asset that generates the TAB or (2) more aligned with the risk of a market participant who would hypothetically realize the TAB.

Documentation of the selection process with regard to the present value discount rate should be provided in the valuation work files.

Exhibit 2 provides an example that illustrates the application of the TAB adjustment in a simple income approach intangible asset valuation analysis.

Exhibit 1
Tax Amortization Benefit Adjustment Factor Formula

$$TAB\ Adjustment\ Factor\ = \frac{1}{1 - (\frac{income\ tax\ rate}{amortization\ period})PVAF}$$

PVAF = The present value of an annuity factor for 15 years at the present value discount rate used in the unadjusted intangible asset valuation analysis. The income tax rate is the effective income tax rate used in the unadjusted intangible asset valuation analysis.

Exhibit 2
Illustrative TAB Adjustment Example

Assumptions and Calculations:

Intangible Asset Unadjusted Income Approach Value Indication: $10,000,000
Effective Income Tax Rate Used in the Unadjusted Analysis: 30%
Selected Present Value Discount Rate: 20%

$$TAB\ Adjustment\ Factor\ = \frac{1}{1 - (\frac{30\%}{15\ years})(4.6755)} = 1.10316$$

"[A] TAB adjustment is generally considered appropriate when measuring the fair value of an entity using an income approach for a presumed taxable transaction."

In this case, the TAB adjustment factor calculates to 1.10316, indicating an income approach value adjustment of approximately 10.3 percent.

The analyst would then multiply the unadjusted income approach value indication of $10 million with the TAB adjustment factor of 1.10316, as follows: $10,000,000 unadjusted value × 1.10316 TAB = $11,000,000 fair value (rounded)

In this example, the application of the TAB resulted in an additional $1,031,600 (or, $1 million rounded) in the indicated income approach value of the purchased intangible asset.

Guidance on the Application of the TAB

While the passage of Section 197 simplified the matter of what and how certain acquired intangible assets should be amortized for federal income tax purposes, not all acquired intangible assets are subject to a TAB adjustment. The analyst should apply the TAB adjustment only when appropriate.

For example, the *Mandatory Performance Framework* ("MPF") discusses considerations related to the TAB adjustment in the fair value measurement of acquired intangible asset in a business combination transaction. When applying the TAB, the MPF requires the analyst to document in writing within a work file, the appropriateness of applying the TAB and assumptions used in the analysis (such as the selected income tax rate and discount rate).

The American Institute of Certified Public Accountants, the American Society of Appraisers, and the Royal Institute of Chartered Surveyors collaborated to develop the MPF. The MPF is designed to provide guidance on the type and amount of documentation that should be gathered to support a valuation analysis.

The MPF sets requirements for analysts who hold the Certified in Entity and Intangible Valuation designation and perform fair value measurements for financial accounting purposes.

In the valuation of an intangible asset, the analyst should consider the three generally accepted valuation approaches: the cost approach, the market approach, and the income approach. Within these three generally accepted intangible asset valuation approaches, there are a number of generally accepted valuation methods to estimate the value of intangible assets.

According to the MPF, a TAB adjustment is generally considered appropriate when measuring the fair value of an entity using an income approach for a presumed taxable transaction.[10]

According to the MPF, applying the TAB adjustment is not appropriate in a cost approach intangible asset valuation analysis. The cost approach typically does not include any income tax considerations. The MPF states that the TAB adjustment is not appropriate when applying the cost approach when (1) the transaction is nontaxable, (2) when pretax costs are expended, and (3) when the price paid fully reflects the full fair value of the entity.

The MPF specifies that including the TAB in a market approach intangible asset valuation analysis also is not appropriate. Applying a market approach valuation method, the value of an intangible asset is estimated based on market prices paid for comparable assets and those prices typically include all of the benefits of owning the intangible asset, including the TAB adjustment.

The MPF also requires the analyst to document the consideration of the TAB adjustment when accounting for foreign transactions. Income tax rules related to intangible asset amortization may vary considerably between different countries.

For instance, some taxing jurisdictions typically use the intangible asset's remaining useful life ("RUL") in the calculation of the TAB. Other taxing jurisdictions use a statutory amortization period.

The United States allows the application of a 15-year amortization period to calculate the TAB for patents, trademarks, customer relationships, and goodwill. In India, the amortization period for the same intangible assets is only four years. In Hong Kong, patents and technology may be amortized over a one-year period while trademarks are amortizable over five years. However, customer relationships and goodwill are not amortizable.

Exhibit 3 illustrates how the tax amortization periods (i.e., years) of certain intangible assets of select industrialized taxing jurisdictions can vary significantly.

Summary and Conclusion

Acquirers may retain an analyst to value intangible assets as part of a taxable business combination for federal taxation purposes. Pursuant to Section 197, certain acquired intangible assets may be amortized

over a 15-year life. The amortization of an intangible asset over the 15-year statutory period results in an income tax expense saving for the acquirer (i.e., the TAB).

Analysts who perform fair value measurements of intangible assets acquired as part of a business combination transaction (1) should be aware of the TAB adjustment and (2) should consider if the TAB is appropriate in their analysis.

Exhibit 3
Income Tax Amortization Periods (Years)
Of Certain Intangible Assets in Certain Taxing Jurisdictions

Country	Patents	Technology	Trademark	Customer Relationships	Goodwill
United States	15	15	15	15	15
Canada	20	20	20	20	20
China	RUL ≥ 10	RUL ≥ 10	RUL ≥ 10	RUL ≥ 10	No TAB
France	RUL ≥ 5	RUL ≥ 5	No TAB	No TAB	No TAB
Hong Kong	1	1	5	No TAB	No TAB
India	4	4	4	4	4
Russia	RUL ≥ 2	RUL ≥ 2	RUL or 10	RUL or 10	5
United Kingdom	25 or RUL	25 or RUL	25 or RUL	No TAB	No TAB

Source: "Tax Amortization Benefit: What Is the Legal Tax Lifetime of an Intangible Asset?" TaxAmortization.com, retrieved from http://taxamortisation.com/tax-amortisation-benefit.html.

To apply the TAB adjustment, an analyst may consider (1) which assets qualify as Section 197 amortizable intangible assets, (2) what intangible asset valuation methods are appropriate for the consideration of the TAB, adjustment, (3) whether the acquisition transaction is a taxable business, and (4) whether Section 197 or a similar law applies in an international business combination transaction.

Failure to consider these factors may result in an unsupported application of the TAB adjustment.

Notes:

1. Pursuant to the Tax Reform Act of 1986, Internal Revenue Code 1060 (Special Allocation Rules for Certain Asset Acquisitions) prescribes the rules for the seller and the buyer each to allocate the consideration paid or received in a transaction, among the assets transferred in an applicable asset acquisition.
2. Enacted in 1986, the provisions of Section 336(e) are similar to Section 338(h)(10). However, the purchaser is not required to be a single corporation, but can be an individual or a partnership. In fact, multiple purchasers are allowed.
3. Enacted in 1982, Section 338(h)(10) allows a purchaser making a stock acquisition to elect to treat the stock purchase as an asset purchase for federal income tax purposes. The sale of stock is ignored, and the transaction is treated as a deemed sale of assets by the corporation followed by a deemed liquidation of the corporation. A fictional "new corporation" is treated as purchasing the assets for their fair market value. This election requires the purchaser to purchase at least 80 percent of the vote and value of the target company stock. This election can only be made if the target corporation is an S corporation or a corporate subsidiary of a consolidated group, and the purchaser is a single corporation.
4. Gregory M. Beil, "Internal Revenue Code Section 197: A Cure for the Controversy Over the Amortization of Acquired Intangible Assets," *University of Miami Law Review*, 731, vol. 49 (July 1995): 742.
5. Ibid.
6. Internal Revenue Code Section 197 (2018).
7. Treasury Regulation Section 1.197-2.
8. Ibid.
9. Robert F. Reilly and Robert P. Schweihs, *Best Practices: Thought Leadership in Valuation, Damages, and Transfer Price Analysis* (Ventnor, NJ: Valuation Products and Services, 2019), 913–14.
10. *Application of the Mandatory Performance Framework for the Certified in Entity and Intangible Valuations Credential*, Corporate and Intangibles Valuation Organization, LLC (January 2017): 24.

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Best Practices Discussion

Applying the Cost Approach in the Fair Value Measurement of Intangible Assets

Nathan P. Novak and Robert F. Reilly, CPA

A valuation analyst ("analyst") may be asked to perform intangible asset valuations for a variety of reasons. A fair value measurement for financial accounting (e.g., for purposes of intangible asset impairment testing or business combination acquisition accounting) is one reason why an analyst may be asked to value intangible assets. The cost approach is one of three generally accepted intangible asset valuation approaches. The cost approach may be particularly applicable to the fair value measurement of certain types of intangible assets. This discussion summarizes the best practices related to the application of the cost approach to intangible asset valuation, particularly in the context of a fair value measurement assignment.

Introduction

There are three generally accepted intangible asset valuation approaches: (1) the income approach, (2) the market approach, and (3) the cost approach.

Most valuation analysts ("analysts") are familiar with the income approach and market approach intangible asset valuation methods, such as the multi-period excess earnings method, the capitalized excess earnings method, the relief from royalty method, and the sales comparison method.

In comparison to real estate and tangible personal property appraisers, analysts often have less experience and training in the application of the cost approach to property valuation. Nonetheless, in many circumstances, the cost approach is particularly applicable to the fair value measurement of certain types of intangible assets.

This discussion combines a theoretical framework for the application of the cost approach with a number of illustrative examples. First, this discussion summarizes the various types of intangible assets and the general intangible asset valuation process. This discussion describes some of the reasons why an analyst may be asked to develop the fair value measurement of an intangible asset.

Second, this discussion explains the theory and application of the cost approach to a wide range of intangible asset valuation assignments. This discussion mentions errors and misconceptions that analysts may have with regard to the application of the cost approach.

Third, this discussion considers the application of the cost approach in fair value measurements developed for financial accounting purposes (i.e., Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 820, *Fair Value Measurements*). This portion of the discussion includes guidance from the *Mandatory Performance Framework* ("MPF") related to the Certified in Entity and Intangible Valuations ("CEIV") credential.[1]

Finally, this discussion presents an illustrative example of the application of the cost approach to an intangible asset fair value measurement analysis.

Intangible Asset Overview

Many analysts have developed lists of intangible assets. However, there is no single universally recognized list of all intangible assets.

As defined in ASC Topic 350, *Intangibles—Goodwill and Other*, intangible assets are assets that have no physical substance. The value of an intangible asset is based on the rights or privileges to which the owner/operator is entitled. FASB ASC Topic 350 provides further definitions related to the recognition of an intangible asset.

ASC Topic 805-20-55 provides one list of intangible assets that analysts frequently refer to for fair value measurement and other financial accounting purposes. This list is intended to present the identifiable intangible assets that may be recognized for acquisition accounting purposes. The ASC Topic 805-20-55 list also illustrates the many different types of identifiable intangible assets for other purposes.

ASC Topic 805-20-55 organizes the list of identifiable intangible assets into the following five categories:

1. Marketing-related intangible assets
2. Customer-related intangible assets
3. Artistic-related intangible assets
4. Contract-based intangible assets
5. Technology-based intangible assets

The identifiable intangible assets included in each of the five ASC Topic 805-20-55 categories are presented in Exhibit 1.

The ASC Topic 805-20-55 list of identifiable intangible assets is not intended to be comprehensive. Rather, it is meant to provide a reasonable list of several types of intangible assets that an analyst may identify.

Similar to the many types of intangible assets, there are numerous reasons why an analyst may be asked to value an intangible asset. In the context of financial accounting, a fair value measurement is a typical valuation assignment.

The following discussion presents a nonexhaustive list of some of the financial-accounting-related intangible asset fair value measurement assignments.

- Preparing the acquisition accounting (i.e., transaction purchase price) allocation among acquired tangible assets and intangible assets (in compliance with ASC Topic 805, *Business Combinations*)
- Testing for goodwill impairment and for other intangible asset impairment (in compliance with ASC Topic 350, *Intangibles—Goodwill and Other* and ASC Topic 360, *Property, Plant, and Equipment*)
- Preparing the post-bankruptcy "fresh start" accounting for the emerging entity's tangible assets and intangible assets (ASC Topic 852, *Reorganizations*)
- Preparing valuations for investment company financial accounting (ASC Topic 946, *Financial Services—Investment Companies*)
- Valuing intangible asset investments owned by (and reported on the balance sheet of) a portfolio company

Again, the above list is not meant to be comprehensive. Rather, it is meant to provide a reasonable list of several types of fair-value-related intangible asset measurement assignments that an analyst may be asked to perform.

After being asked to develop the fair value measurement of any of the identifiable intangible assets described above, the analyst typically conducts due diligence and gathers data that will assist in the valuation process.

Before diving into the application of the cost approach to intangible asset fair value measurements, the following section discusses some helpful data gathering tools that the analyst may use during the course of the analysis.

Intangible Asset Valuation Process Data Gathering and Due Diligence

At the onset of the valuation engagement, the analyst typically performs due diligence with respect to the subject intangible asset. First, the analyst typically gathers and analyzes information related to the current owner/operator. The information typically relates to both the historical development and the current use of the intangible asset.

Such information typically includes the following:

1. The owner/operator's historical and prospective financial statements (related to the line of business or business unit that operates the intangible asset)
2. The owner/operator's historical and prospective intangible asset development and maintenance costs

Exhibit 1
FASB Accounting Standards Codification Topic 805-20-55
List of Identifiable Intangible Assets

Marketing-Related Intangible Assets

1. Newspaper mastheads
2. Trademarks, trade names, service marks, collective marks, and certification marks
3. Trade dress (unique color, shape, package design)
4. Internet domain names
5. Noncompetition agreements

Customer-Related Intangible Assets

1. Customer lists
2. Customer contracts and related customer relationships
3. Noncontractual customer relationships
4. Order or production backlogs

Artistic-Related Intangible Assets

1. Plays, operas, and ballets
2. Books, magazines, newspapers, and other literary works
3. Musical works such as compositions, song lyrics, and advertising jingles
4. Photographs and photographs
5. Video and audiovisual material including motion pictures or films, music videos, and television programs

Contract-Based Intangible Assets

1. License, royalty, and standstill agreements
2. Advertising, construction, management, service, or supply contracts
3. Operating lease agreements of a lessor
4. Construction permits
5. Operating and broadcast rights
6. Franchise agreements
7. Use rights such as drilling, water, air, timber, cutting, and route authorities
8. Servicing contracts such as mortgage servicing rights
9. Employment contracts

Technology-Based Intangible Assets

1. Patented technology
2. Computer software and mask works
3. Unpatented technology
4. Databases, including title plants
5. Trade secrets, such as secret formulas, processes, and recipes

3. Any current and expected owner/operator resource/capacity constraints (e.g., with consideration of raw materials, production, storage, distribution, sales, etc.)
4. A description of, and an estimate of, the intangible asset economic benefits to the current owner/operator. These economic benefits typically include the following components:
   - Any associated revenue increase (e.g., related product unit price/volume, market size/position)
   - Any associated expense decrease (e.g., expenses related to product returns; cost of goods sold; selling, general, and administrative; research and development)
   - Any associated investment decrease (e.g., inventory, capital expenditures)
   - Any associated risk decrease (e.g., the existence of any intangible asset licenses or contracts, a decrease of cost of capital components, the defensive use of the intangible asset)
   - Any assessment of the impact of the intangible asset on the owner/operator's strategic/competitive strengths, weaknesses, opportunities, and threats (i.e., a strengths, weaknesses, opportunities, and threats analysis)

The analyst may consider the market potential of the intangible asset outside of the current owner/operator. For example, the analyst may consider the following factors from the perspective of an alternative (e.g., a market participant in the context of a fair value analysis) owner/operator:

1. A change in the market definition or in the market size for an alternative owner/operator
2. A change in alternative/competitive uses of the intangible asset to an alternative owner/operator
3. The ability of the intangible asset to create inbound/outbound license opportunities to an alternative owner/operator
4. Whether the current owner can operate the intangible asset and also outbound license the intangible asset (in different products, different markets, different territories, etc.)

To the extent that the intangible asset is subject to an inbound or outbound license agreement (or other contract), the analyst may look for the more typical intangible contract terms. Many of the typical contract terms associated with an intangible asset use license or development/commercialization agreement are listed in Exhibit 2.

The analyst may also review and challenge (1) any owner/operator-prepared financial projections

Exhibit 2
Typical Contract Terms of an Intangible Asset License (or Other) Agreement

1. Licensor/licensee responsibility typical contract terms:
   - Identity of the licensor and the licensee
   - Term of the agreement (including any renewal options)
   - Intellectual property legal protection requirements
   - Amount and responsibility for research and development expenditures
   - Amount and responsibility for marketing, advertising, or other promotional expenditures
   - Responsibility to obtain and maintain any licenses, permits, or other regulatory approvals
   - Milestone dates for regulatory approvals, commercialization, sales levels, etc.
2. Other intangible asset license agreement typical contract terms:
   - Minimum use, production, or sales requirements
   - Minimum marketing, promotion, or commercialization expense requirements
   - Research and development technology development payments and development completion payments
   - Party responsible to obtain the required regulatory approvals
   - Milestone license payments
   - Rights to any future developments
   - Rights to sublicense

and (2) any owner/operator-prepared measures of intangible asset economic benefits.

In particular, the analyst may test the achievability of such financial projections and the reasonableness of such economic benefit measures against the owner/operator's actual historical performance, industry performance, guideline company performance, and other benchmark comparisons.

For example, the analyst may perform the following benchmark comparative analyses:

1. Compare any owner/operator prior-prepared financial projections to the owner/operator's actual historical results of operations
2. Compare any owner/operator current management financial projections to the owner/operator current capacity constraints
3. Compare any owner/operator current financial projections to the current total market size (i.e., demand, capacity, etc.)
4. Consider any published industry average comparable profit margin data for the industry in which the owner/operator competes
5. Consider selected guideline publicly traded company comparable profit margin data for the industry in which the owner/operator competes
6. Consider the quality and quantity of available guideline or comparable intangible asset license data for the industry in which the owner/operator competes
7. Perform a useful economic life ("UEL") analysis, with consideration of the following intangible asset life measurements:
   - Legal/statutory life
   - Contract/license life
   - Technology obsolescence life
   - Economic obsolescence life
   - Lives of prior generations of the subject intangible asset
   - Position of the subject intangible asset in its current life cycle

The analyst typically compares the owner/operator's historical and projected results of operations to the selected guideline publicly traded companies (described below). In addition, the analyst may also compare the owner/operator's results of operations to published industry data sources.

Exhibit 3 presents some of the published industry data sources that analysts may consider for these intangible asset benchmark comparative analyses.

The data sources included in Exhibit 3 allow the analyst to compare the owner/operator's financial results to benchmark industry expense ratios, profit margins, returns on investment, and the like. These comparisons can help the analyst to assess the reasonableness of:

1. the owner/operator's financial projections and/or
2. the owner/operator's assessment of any intangible asset economic benefits.

Exhibit 4 presents a list of automated databases that analysts can access to obtain information on

Exhibit 3
Industry Financial Ratio Data Sources That May Be Useful in the Intangible Asset Due Diligence

- The Risk Management Association—*Annual Statement Studies: Financial Ratio Benchmarks*
- FirstResearch—*Industry Profiles*
- IBISWorld—*Industry Reports*
- BizMiner (The Brandow Company)—*Industry Financial Profiles*
- CCH, Inc.—*Almanac of Business and Industrial Ratios*
- IndustriusCFO (formerly Fintel, LLC)—*Industry Average Ratios*
- MicroBilt Corporation (formerly IntegraInfo)—*Integra Financial Benchmarking Data*
- ValuSource—*IRS Corporate Ratios*
- Schonfeld & Associates, Inc.—*IRS Corporate Financial Ratios*
- S&P Capital IQ—*Industry Profiles*
- S&P Global—*Industry Surveys*
- Duff & Phelps, LLC—*Valuation Handbook: U.S. Industry Cost of Capital*

Exhibit 4
Database Sources That May Be Useful In the Intangible Asset Due Diligence Regarding Guideline Intangible Asset Owner/Operators

S&P Capital IQ—This database provides an equity screener in which one can screen by numerous criteria, including industry; business description; geographic location; financial data such as revenue, EBITDA, or assets; and closing price, to name a few. The database contains information on over 88,000 companies worldwide. Over 5,000 unique financial data items are provided. SEC filings and some foreign annual reports can be accessed directly from S&P Capital IQ. Analyst reports are also available for an additional fee. More information can be found at www.capitaliq.com.

Thomson ONE—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 70,000 companies worldwide. Analyst reports are also available on this database. More information can be found at www.thomsonone.com.

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 73,000 companies worldwide. Over 2,000 unique financial data items are provided. More information can be found at www.factset.com.

Bloomberg Professional—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 every publicly traded US company and over 45,000 foreign companies. More information can be found at www.bloomberg.com/professional/.

MergentOnline—This searchable database contains information on over 35,000 active and inactive companies. Companies can be screened by industry; business description; financial data such as revenue, EBITDA, or assets; geographic location; and closing price, to name a few. More information can be found at www.mergentonline.com.

Pitchbook/BVR Guideline Public Company Comps Tool—This database includes information on all 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. More information can be found at www.bvmarketdata.com.

Hoovers—This database, owned by D&B, provides information on over 85 million private and public companies. Data availability varies widely depending on the size of the company and whether it is publicly traded or privately held. Researchers can screen on more than 70 search criteria. More information can be found at www.hoovers.com.

Sentieo—This database covers information on over 70,000 global equity securities. The platform allows for intelligent document search through millions of SEC filings, transcripts, and presentations for tens of thousands of publicly traded companies. More information can be found at www.sentieo.com.

TagniFi—This database primarily functions as a screening tool allowing users to perform customized searches for companies or transaction information. The database provides company financial information, identifies competitors and comparable companies, company news, and analyst estimates and recommendations for each company in its database. More information can be found at www.tagnifi.com.

individual owner/operator companies. These databases typically include information about both publicly traded companies and privately owned companies. These databases may be considered in the intangible asset due diligence process.

After completing the data gathering and due diligence, the analyst identifies the valuation approach (or approaches) to apply in that valuation assignment. The following sections describe the application of the cost approach, one of the three generally accepted intangible asset valuation approaches.

Overview of the Cost Approach

As mentioned above, there are three generally accepted intangible asset valuation approaches: the cost approach, the market approach, and the income approach. The analyst should consider all three approaches in an intangible asset fair value measurement and apply those approaches that are relevant to the facts and circumstances of the particular assignment. However, the application of the market approach and the income approach is outside the scope of this discussion.

The fundamental principle of the cost approach in the valuation of intangible assets is the economic principle of substitution. That is, the value of a fungible intangible asset may be influenced by the cost to create a new substitute intangible asset.

As discussed later, all cost approach methods apply a comprehensive definition of cost, including consideration of an opportunity cost during the intangible asset development stage. After considering all cost components, the value of the new substitute intangible asset should be adjusted (i.e., amortized or depreciated) in order to make the hypothetical new intangible asset comparable to the actual or "old" intangible asset.

Some analysts erroneously believe that the cost approach relies exclusively on historical information. For example, one analyst misconception related to the cost approach is that it should be based on the accounting book value of the reference asset measured as its historical cost adjusted for any accounting amortization or recognition of impairment.

Instead, it is important for analysts to recognize that cost approach valuation methods often include forward-looking estimates.

For example, the expected cost of a developing a new intangible asset typically involves estimates of developer's profit and entrepreneurial incentive, resulting in a value indication that has little resemblance to the historical-cost-based accounting book value of the subject asset as recorded on the owner/operator entity's balance sheet.

It is noteworthy that not all commercial intangible assets are fungible. Some intangible assets are unique and, therefore, cannot be actually replaced. However, a replacement cost analysis is a hypothetical analysis that assumes that the actual asset does not currently exist. Therefore, the cost approach may still be applicable to the valuation of certain unique intangible asset.

In the example of an intellectual property valuation, the analyst should note that the cost approach considers the cost to replace the utility of the actual intellectual property. The application of the cost approach assumes that the actual intellectual property does not already exist. Real estate appraisers call this assumption the greenfield premise. That is, the subject building is assumed not to exist, and the real estate appraiser faces an undeveloped greenfield (i.e., a vacant site).

In the intangible asset valuation, the replacement intellectual property provides the same utility as the actual intellectual property. Since the analyst assumes a greenfield, the hypothetical intellectual property does not infringe on actual intellectual property.

An FCC license may be an example of a fungible commercial intangible asset. A buyer may refuse to accept the seller's asking price for, say, an FCC broadcast license. Instead, the buyer can go to the marketplace (or to the FCC) and buy a perfectly identical substitute license. In this case, the cost of the alternative license is relevant to the fair value measurement of the FCC license intangible asset.

A patent is typically not a fungible intangible asset. A patent (by definition) is unique. A buyer cannot go to the marketplace and buy a perfectly identical substitute patent. There is only one subject patent, and it is registered with the U.S. Patent and Trademark Office.

Let's assume a subject patent. The buyer may buy a functionally similar patent. Or, the buyer can develop a new noninfringing invention. Let's assume this noninfringing invention may result in a substitute patent. A perfectly identical substitute patent would, by definition, infringe on the actual patent.

However, the cost approach application should consider the cost to create a noninfringing substitute with the equivalent utility to the actual patent. Therefore, the cost approach may still be applied in an intellectual property valuation, although it may have certain application limitations.

Cost approach methods are especially suitable for the fair value measurement of a recently developed intangible asset. In the case of a relatively new intangible asset, the owner/operator's development cost and development effort data may still be available (or may be subject to an accurate estimation).

Cost approach methods are also applicable to the valuation of an in-process intangible asset and to a noncommercialized (defensive) intangible asset.

An example of a noncommercialized intangible asset is a patent or a trademark that is held

primarily for its strategic defensive use (i.e., so the owner's competitor cannot own or operate the subject intangible asset).

When applying the cost approach, the analyst should realize that the intangible asset value is not derived from the current cost measure alone. Rather, the intangible asset value is derived from the current cost measure (however defined) less appropriate allowances for all forms of depreciation and obsolescence.

As explained below, depreciation and obsolescence are defined valuation terms.

Reasons to Apply the Cost Approach

For the most part, the analyst's selection of the applicable intangible asset valuation approaches is a process of elimination. The analyst typically attempts to apply all approaches for which there are reliable data available.

If there are sufficient reliable data to perform all three property valuation approaches, then the analyst typically applies all three approaches. If there are only sufficient reliable data to perform two approaches, then the analyst typically applies those two approaches. If there are only sufficient reliable data available to perform the cost approach, then the analyst applies the cost approach only.

If there are insufficient guideline sale or license transaction data available, then the analyst may have to rely on the cost approach by default. If the subject intangible asset is not the type of asset that generates a measurable amount of income (however defined), then the analyst may have to rely on the cost approach by default.

Certain intangible assets particularly lend themselves to the application of the cost approach. Such intangible assets include the following:

1. Recently developed (i.e., relatively new) intangible assets
2. Intangible assets that are fungible or may be easily exchanged or substituted
3. Intangible assets for which the owner/operator's historical development cost data are still available
4. Intangible assets that are operated by an owner with the expertise to assist the analyst in the estimation of a current development cost
5. Intangible assets that are operated by an owner with the expertise to assist the analyst in the estimation of (a) a useful economic life ("UEL") and (b) obsolescence
6. Intangible assets that are used (or used up) in the production of income but which themselves do not produce any income; examples of such contributory intangible assets may include product formulae, employee or work station training/operator manuals, operating procedures, computer software, an assembled workforce, etc.; these intangible assets are sometimes referred to as "back room" intangible assets

In selecting the cost approach, the analyst should consider if there are sufficient reliable data available to estimate both:

1. the intangible asset current cost (e.g., replacement cost new or reproduction cost new) and
2. all forms of intangible asset depreciation and obsolescence (including economic obsolescence).

The estimation of obsolescence often involves an analysis of the intangible asset's UEL. The topic of UEL analysis is discussed in the following section.

Useful Economic Life Considerations

After the analyst has selected the appropriate intangible asset valuation approaches and methods, the next procedure is to consider the UEL. The estimation of the intangible asset UEL (often called a "lifing analysis") is an important consideration in each generally accepted valuation approach.

An asset's UEL is the total period of time over which an asset is expected to generate economic benefits. In estimating an intangible asset's economic life, analysts typically consider the financial projections of the subject entity (or asset), its industry, the economy or economies of the geographic regions in which the subject entity operates, and other market participants or competitors.[3]

In the cost approach, a lifing analysis may be performed to estimate the total amount of obsolescence, if any, from the estimated measure of "cost"—that is, the intangible asset reproduction cost new or replacement cost new.

For each valuation approach, the UEL analysis may have an impact on value. Normally, in the cost approach, a longer UEL estimate results in a greater intangible asset value. That is because a longer UEL

generally indicates less obsolescence in the intangible asset. Normally, a shorter UEL estimate results in a greater obsolescence allowance consideration in the intangible asset value.

The market should indicate an acceptance for the subject intangible asset's UEL. If the actual intangible asset's UEL is materially different from the guideline sale or license transaction UEL, then adjustments to the market-derived transactional pricing multiples (or other pricing metrics) should be considered.

If the actual asset's UEL is more than materially different from the guideline sale or license transaction intangible asset UELs, this fact may indicate a lack of marketability for the intangible asset. This fact may indicate a lack of market demand for an intangible asset with the intangible asset's age/life characteristics.

The following list presents some of the factors that the analyst may consider in the UEL analysis:

- Legal factors
- Regulatory factors
- Contractual factors
- Functional factors
- Technological factors
- Economic factors
- Analytical factors

The analyst typically considers each of these categories of life influence factors in the intangible asset's UEL estimation. Typically, the life factor that indicates the shortest UEL deserves primary consideration in the intangible asset UEL estimate.

Cost Approach Valuation Methods

There are several intangible asset valuation methods within the cost approach. Each valuation method uses a particular definition (or measurement metric) of cost.

Two of the cost measurement definitions are:

1. reproduction cost new and
2. replacement cost new.

Reproduction cost new ("RPCN") measures the total cost, in current prices as of the date of the analysis, to develop an exact duplicate of the actual intangible asset. The reproduction intangible asset is developed using the same materials, production standards, design, layout, and quality of workmanship as the actual intangible asset. The reproduction intangible asset includes all inadequacies, superadequacies, and obsolescence of the actual intangible asset.

Replacement cost new ("RCN") measures the total cost, in current prices as of the date of the analysis, to develop a new intangible asset having the same functionality or utility as the actual intangible asset. Functionality is an engineering concept that means the ability of the intangible asset to perform the task for which it was designed. Utility is an economics concept that means the ability of the intangible asset to provide an equivalent amount of satisfaction to the owner/operator.

The replacement intangible asset is developed using modern materials, production standards, design, layout, and quality of workmanship. The replacement intangible asset typically excludes all curable inadequacies, superadequacies, and obsolescence that may be present in the actual intangible asset.

There are other cost definitions that may also be applicable to a cost approach valuation. Some analysts consider a measure of cost avoidance as a cost approach method. This method quantifies either historical or prospective development costs that are avoided because the owner/operator already owns the actual intangible asset.

However, the cost avoidance method is more accurately categorized as an income approach method, rather than a cost approach method.

Some analysts consider trended historical costs as a cost approach measure. In this method, the historical development costs are identified and trended to the valuation date by the use of an appropriate inflation-related index factor.

This trended historical cost method is particularly applicable when (1) the actual intangible asset is relatively new or (2) the owner/operator has fairly complete records related to the historical development costs and efforts. In addition, the inflation-related trend index should be appropriate to the type of development costs that are being indexed to current costs.

Regardless of the specific cost definition that is applied in the cost measurement analysis, all cost measurement methods (including RPCN, RCN, or some other cost measurement) should consider a comprehensive cost analysis.

Cost Measurement Procedures

Any intangible asset cost measurement should consider the following four cost components:

1. Direct costs (e.g., materials, labor, and supplies)
2. Indirect costs (e.g., engineering and design expenses, legal and consulting fees)
3. The intangible asset developer's profit (e.g., a profit margin percent applied to the direct cost and indirect cost investment)
4. An opportunity cost/entrepreneurial incentive (e.g., a measure of lost income or other opportunity cost during the development period adequate to motivate the development process)

Usually, the intangible asset direct costs and indirect costs are relatively easy to identify and quantify.

The developer's profit component can be estimated using several generally accepted procedures. This cost component is often estimated as a percentage profit margin on the developer's investment in the material, labor, and overhead costs.

The entrepreneurial incentive component is often measured as either the lost income that the developer would experience during the intangible asset replacement/development period or a fair rate of return on the investment in the total intangible asset cost metric during the replacement/ development period.

The lost income concept of entrepreneurial incentive is often considered in the context of a "make versus buy" decision. For example, consider a hypothetical willing buyer and a hypothetical willing seller (i.e., the current owner) of a patent. Let's assume that it would require a two-year period for a hypothetical willing buyer to develop a replacement (e.g., new invention) patent.

If the buyer "buys" the seller's actual patent, then the buyer can start earning income from the actual patent (either operating income or ownership license income) immediately.

In contrast, if the buyer "makes" its own hypothetical noninfringing replacement patent, then the buyer will not earn any income (either operating income or ownership license income) from the replacement patent during the two-year replacement/development period. The two years of lost income during the hypothetical patent development period represents the opportunity cost of "making" (i.e., developing) a de novo, noninfringing replacement patent—compared to "buying" the actual patent.

All four cost components—that is, direct costs, indirect costs, developer's profit, and entrepreneurial incentive—should be considered in the intangible asset cost approach valuation. Therefore, while the cost approach represents a different set of analyses than the income approach, there are certain economic analyses that are included in the cost approach.

These economic analyses provide indications that either of these two related cost approach components should be measured as:

1. entrepreneurial incentive or lost income opportunity cost (if any) or
2. economic obsolescence or an inadequate return on investment (if any).

The intangible asset development cost new (however measured) should be adjusted for any value decreases due to:

1. physical deterioration,
2. functional obsolescence, and
3. external obsolescence.

Within the valuation profession's terminology, all types of physical deterioration and obsolescence are collectively referred to as depreciation. Depreciation is the valuation profession's terminology used for both tangible assets and intangible assets.

Physical deterioration is the reduction in property value due to physical wear and tear. It is unlikely, though not impossible, that an intangible asset will experience physical deterioration. Nonetheless, the analyst should consider the existence of any physical deterioration in a cost approach valuation analysis.

For example, physical deterioration may be considered in the cost approach valuation of a trained and assembled workforce (e.g., if some of the employees are nearing retirement age).

Functional obsolescence is the reduction in property value due to the inability of the intangible asset to perform the function (or yield the economic utility) for which it was originally designed.

The technological component of functional obsolescence is a decrease in value due to improvements in technology that make the subject intangible asset less than the ideal replacement for itself.

For example, in the valuation of computer software, if the software code is written in an obsolete programming language, then the software may suffer from functional obsolescence.

External obsolescence is a reduction in property value due to the effects, events, or conditions that are external to—and not controlled by—the current

use or condition of the intangible asset. The impact of external obsolescence is typically beyond the control of the owner/operator. There are two types of external obsolescence:

1. Locational obsolescence
2. Economic obsolescence

Location obsolescence is a decrease in the property value due to changes in the neighborhood conditions. This type of obsolescence typically affects real-estate-related intangible assets such as easements, drilling rights, air rights, construction permits or rights, environmental operating permits, water extraction rights, and the like.

Economic obsolescence relates to the inability of the owner/operator to earn a fair rate of return on investment ("ROI") related to the intangible asset. Economic obsolescence may affect most types of intangible assets. Economic obsolescence measurement is described in greater detail below.

Obsolescence of any type is considered curable if it would cost the owner/operator less to "cure" the inefficiency than the decrease in value caused by the inefficiency. Obsolescence of any type is considered incurable if it would cost the operator more to "cure" the inefficiency than the decrease in value caused by the inefficiency.

Let's say that an owner/operator uses an inefficient computer software intangible asset (say, it is written in an inefficient third generation language). It would cost $1,000,000 to reprogram the actual computer software in a more efficient fifth generation language.

The new software system would create savings to the owner/operator of both computer hardware and clerical support expense of over $1,000,000 (on a present value basis). Therefore, that intangible asset obsolescence is considered to be curable.

In any cost approach analysis, the analyst should estimate the amounts (if any) of intangible asset physical deterioration, functional obsolescence, and external (potentially economic) obsolescence. In this estimation of the components of valuation depreciation, the analyst may consider both (1) the expected UEL of the intangible asset and (2) the actual ROI of the intangible asset.

Figure 1 illustrates the consideration of direct and indirect costs (e.g., material and director labor) and developer's profit and entrepreneurial income in the cost approach valuation of a typical intangible asset. Figure 1 also considers the comparison of historical costs to current (i.e., valuation date) costs.

In Figure 1, the total historical direct and indirect costs are $100 when the intangible asset was originally developed in the year 2009. The total direct and indirect replacement costs are at $125 as of a 2020 valuation date.

Figure 1 also illustrates how the owner/operator does not typically consider the developer's profit or entrepreneurial incentive cost components—even if the owner/operator did keep track of the historical (e.g., year 2009) direct material and labor development costs. The year 2020 developer's profit and entrepreneurial incentive cost components (at $75) are then added to the year 2020 direct and indirect cost components (at $125).

The sum of all of these cost components (at $200) is the year 2020 RCN.

It is important to note that the cost components discussed above are typically viewed as capitalizable costs (or expenditures), and not period costs (or expenses). That is, as discussed further in a later section, the costs considered in the cost approach are not considered after-tax expenses, but instead considered capitalizable expenditures. Accordingly, there is typically no tax-affecting that should be applied to the cost components that are considered in the cost approach valuation analysis.

However, certain fair value measurements may be an exception to that concept and may incorporate a tax amortization benefit ("TAB") adjustment within the analysis (as discussed further below).

Figure 2 illustrates the relationships between RCN and replacement cost new less depreciation ("RCNLD"). In Figure 2, the intangible asset RCN is $200. This $200 figure is the same RCN estimate as concluded in Figure 1.

Depreciation is subtracted from the RCN in order to estimate the intangible asset current value (or RCNLD). The three depreciation components include physical deterioration (typically a de minimis consideration for an intangible asset), functional obsolescence, and economic obsolescence.

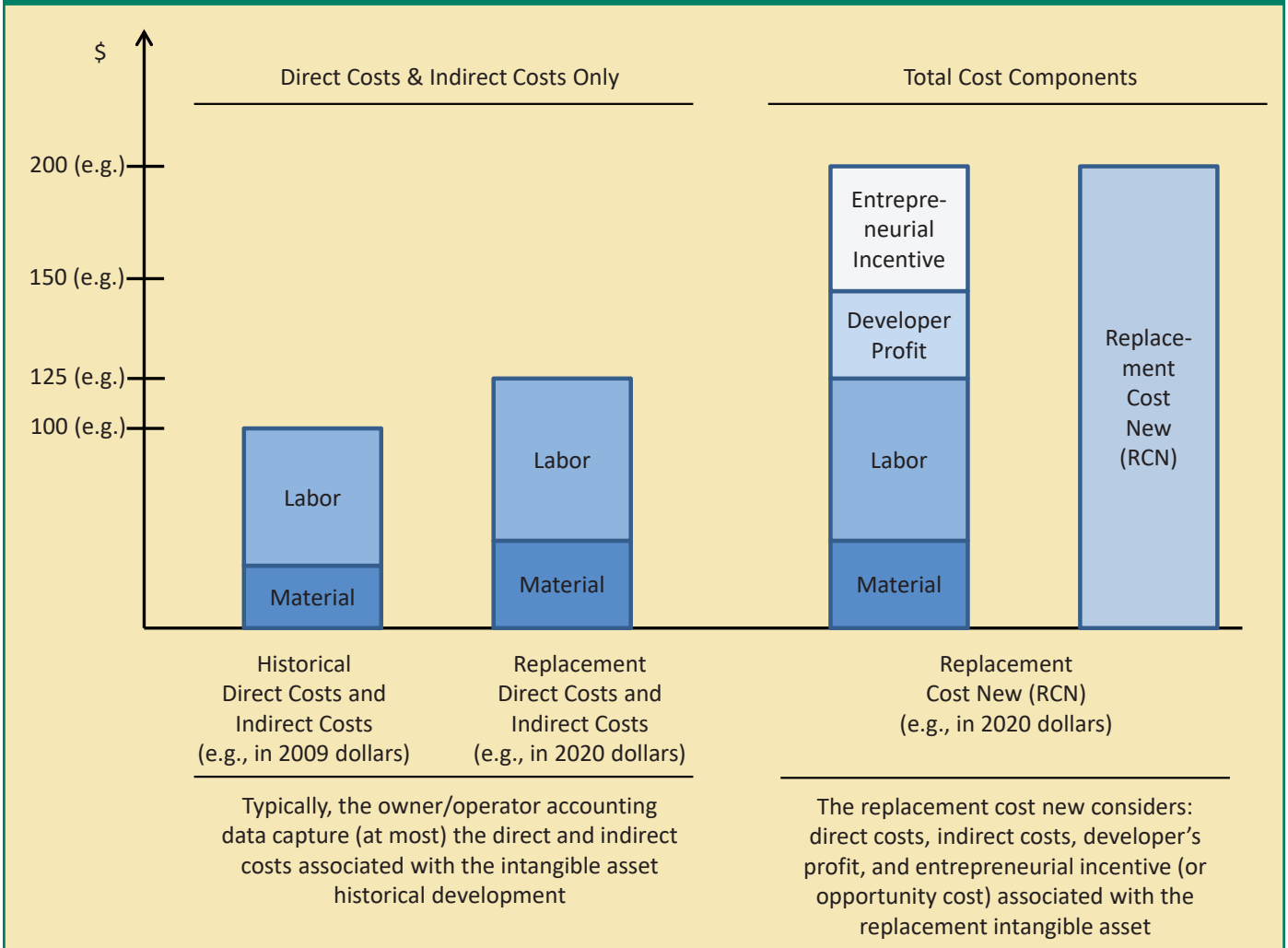
In Figure 2, the total of these three depreciation components is approximately $60. The intangible asset RCNLD is calculated as follows:

	$200 RCN
–	60 less depreciation ("LD")
=	$140 RCNLD

In Figure 2, the current value (or the RCNLD) of the subject intangible asset is illustrated to be approximately $140. The RCNLD (and not the RCN) provides the cost approach value indication.

A typical cost approach formula for quantifying intangible asset replacement cost new is as follows:

Figure 1
Comparison of Historical Cost to Replacement Cost New in the Intangible Asset Development Process



Reproduction cost new
– Incurable functional obsolescence
= Replacement cost new

To estimate the intangible asset value, the following cost approach formula may be applied:

Replacement cost new
– Physical deterioration
– Economic obsolescence
– Curable functional obsolescence
= Value

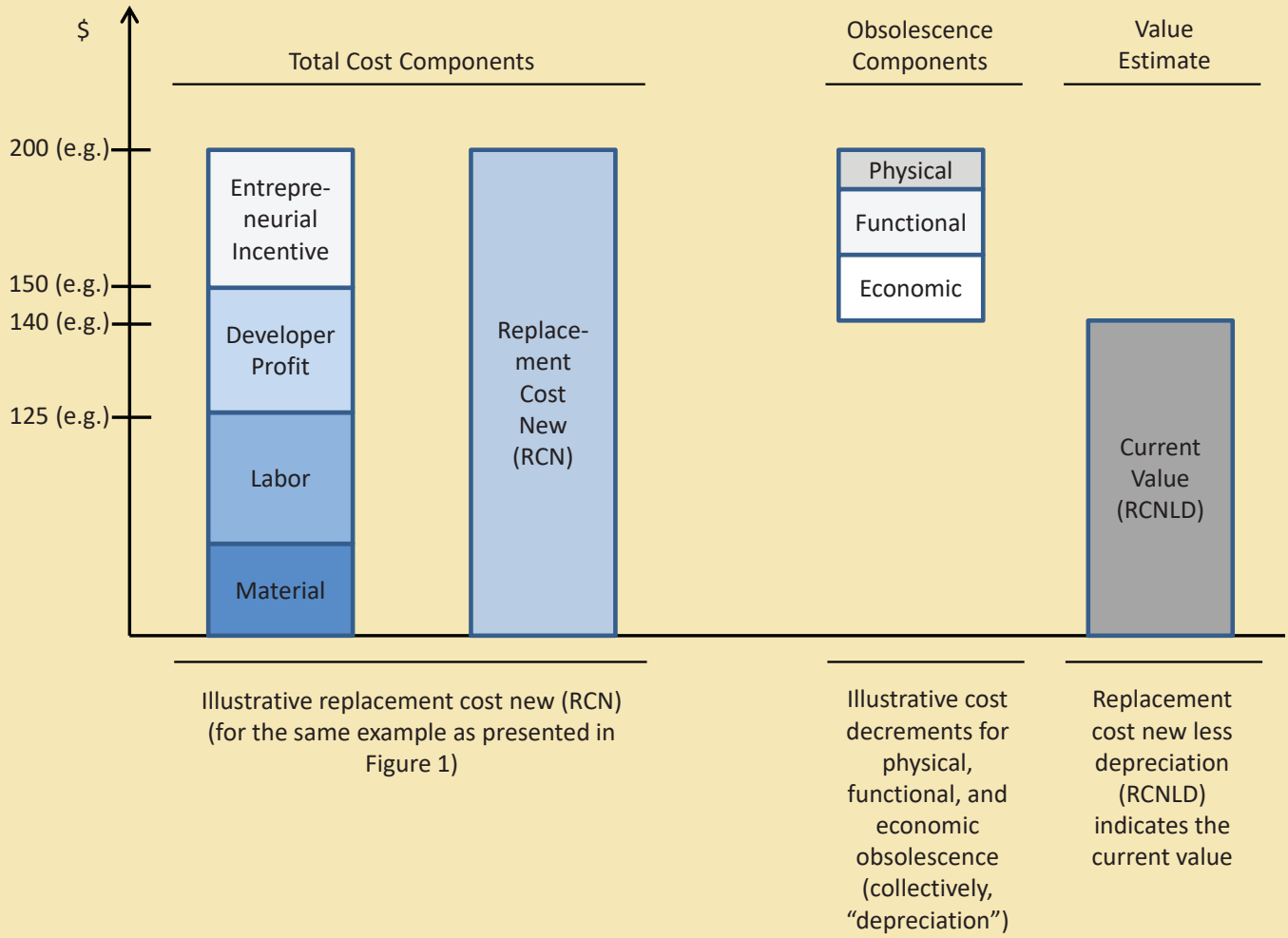
Obsolescence is curable if the cost to cure the intangible asset deficiency (e.g., the cost to re-write the obsolete computer software) is less than the cost of operating the deficient intangible asset (e.g., the cost of running multiple software programs that do not share a common database).

Obsolescence is incurable if the cost of curing the deficiency is more than the cost of operating the deficient intangible asset.

Physical Depreciation Measurement Procedures

There is no particular formula or equation to quantify physical depreciation (or deterioration). If possible, the analyst may physically inspect the intangible asset for any manifestation of physical deterioration. One procedure

Figure 2
Comparison of Replacement Cost New to Current Value in the Intangible Asset Development Process



related to quantifying the quantifying physical deterioration is to estimate the cost to cure the deterioration (if it is, in fact, curable).

Ultimately, intangible assets are typically not subject to wear and tear like tangible assets are. However, intangible assets can be "used up" over time. That is, the intangible asset's UEL may become shorter over time. This decrease in UEL may decrease the intangible asset value.

For example, an intangible asset that is contract-related or otherwise has a legal UEL will typically decrease in value as that UEL expires. Licenses, permits, contractual rights, agreements, franchises, and several types of intellectual property have legally determined finite lives. As that life expires, the value of that intangible asset typically decreases.

Let's assume that the cost to obtain a Food and Drug Administration ("FDA") license for a new drug product is, say, $10 million. That cost would include all drug development and laboratory work, all clinical tests, all application and documentation fees to the FDA, and a lost income/opportunity cost component during the drug development period.

Let's assume that the FDA license period for the drug is 10 years. On the date that the FDA license is granted, the intangible asset value probably equals the RCN of $10 million. Nine years later (with only one year remaining in the FDA license term), the intangible asset value will likely have decreased.

Even ignoring the effect of any economic obsolescence, the willing buyer will probably assume that it will soon need to incur all new drug

development costs in order to obtain a new FDA license for an improved drug product.

The analyst has to decide if the license value decrease is linear over the 10-year life. However, the intangible asset value typically decreases as the UEL decreases. The illustrative FDA license value at the end of year nine will be its RCNLD estimate, not its RCN estimate.

Some analysts may debate whether this value decrease should be called technological obsolescence instead of physical deterioration. Regardless of the terminology used, the analyst should recognize the decrease in the value of contract-related or regulatory-related intangible assets (and of many other types of intangible assets) as the UEL of each such asset decreases.

The analyst should realize that some types of intangible assets may actually experience physical deterioration. All intangible assets have some physical manifestation.

Even institutional goodwill may be manifested by the owner/operator entity's financial statements (historical or prospective), articles of incorporation, books and records, and so on. Personal goodwill may be manifested by personal income tax returns, compensation statements, employment or other contracts, client lists, and so on.

The physical manifestation of some intangible assets may experience wear and tear. For example, in an assembled workforce, some employees may become old (and ready to retire) or injured (and on disability leave). Laboratory notebooks and other technical documentation may be tattered over time. Non-CAD engineering drawings and designs or nonelectronic patient charts and records may show wear and tear over time.

The analyst should at least consider the occurrence of physical deterioration during the intangible asset valuation process.

Functional Obsolescence Measurement Procedures

For all assets, both tangible and intangible, functional obsolescence is usually related to inefficiencies associated with the operation of the asset. These inefficiencies typically involve either inadequacies or superadequacies.

An inadequacy occurs when there is not enough of the asset (e.g., the asset is too small) for it to operate efficiently. A superadequacy occurs when there is too much of an asset (e.g., the asset is too large) for it to operate efficiently.

With regard to functional obsolescence, two principal factors that the analyst typically considers are:

1. excess capital costs and
2. excess operating costs.

The consideration of excess capital costs may compare to the cost to develop a reproduction intangible asset today with the historical cost to develop the actual intangible asset. In other words, if it would cost less to develop the replacement intangible asset today than it did when the actual asset was created, then that difference is one measure of functional obsolescence.

The consideration of excess operating costs may compare the current cost of maintaining or using the intangible asset to the cost of maintaining or using the asset when it was first developed or put into service. The present value of any relative excess operating costs over the intangible asset's UEL is one measure of functional obsolescence.

A trained and assembled workforce is an example of an intangible asset that may experience functional obsolescence. If the workforce is too small to serve the owner/operator, then the entity may operate inefficiently. The work will not be adequately performed or it will not be performed on time. The owner/operator may incur overtime compensation expense in order to complete the work.

One way or another, the work flow will be inefficient or the customer demand will not be met, or the entity will incur excess operating costs (compared to the optimal workforce).

If the workforce is too large to serve the owner/operator, then the entity may also operate inefficiently. There will be employees standing around with little to do, or the employees will perform the available work slowly in order to appear busy.

The owner/operator will incur excess facilities overhead costs (e.g., rent, heat, electricity, etc.) to house the excess employees and excess costs related to wages, payroll taxes, employee insurance benefits, other employee benefits, and so on.

In addition to the wrong size, an assembled workforce can experience functional obsolescence related to the wrong mix of employees. For example, if the workforce includes employees who have inadequate skills or insufficient experience, then the work may be inadequately or inefficiently performed, or both. This situation, in turn, could negatively affect the business (e.g., poor quality control, high product return rate, loss of customer base, damage to reputation, etc.).

If the workforce includes employees who are too highly skilled or experienced, then the owner/operator could incur higher compensation expense (to pay the skilled employees) than is necessary to get the job done. Likewise, the overqualified employees may become frustrated with the less demanding work, and the owner/operator will experience a higher level of employee turnover (than it would with appropriately qualified employees).

As mentioned above, analysts often consider two methods for quantifying functional obsolescence:

- The excess capital cost method
- The excess operating cost method

Although it is called the excess capital cost method, this method can be applied to measure obsolescence related to either an inadequacy or a superadequacy. However, the excess capital cost method is more frequently applied to measure intangible asset superadequacy.

A specific description of the various methods an analyst may use to quantify functional obsolescence is outside the scope of this discussion. However, a later section of this discussion presents an example that illustrates the potential procedures an analyst may go through in order to estimate (1) the intangible asset cost components and (2) the various forms of intangible asset depreciation (e.g., functional obsolescence and economic obsolescence).

Economic Obsolescence Measurement Procedures

The analysis of economic obsolescence is typically the last procedure in any cost approach valuation analysis. This statement is as true for an intangible asset valuation as it is for a tangible asset valuation. The objective of the economic obsolescence analysis is to determine if the owner/operator can earn a fair rate of return on the intangible asset cost approach estimate.

If the owner/operator can earn a fair rate of return, then the cost approach estimate (before an economic obsolescence allowance) provides the intangible asset value indication. If the owner/operator cannot earn a fair rate of return, then the cost approach estimate has to be reduced—by the amount of the economic obsolescence allowance.

The cost approach estimate should be reduced to the level at which the owner/operator can earn a fair rate of return. The approach estimate adjusted for economic obsolescence results in the cost approach value indication.

Typically, it is fairly easy for the analyst to identify physical deterioration (if any) in the intangible asset. It is also fairly easy for the analyst to identify functional obsolescence (if any) in the intangible asset. This is because these forms of depreciation are inherent in the intangible asset.

Economic obsolescence is more difficult to identify than physical deterioration or functional obsolescence. Typically, the causes of economic obsolescence are external to the intangible asset.

The analysis of intangible asset economic obsolescence is typically a two-step process:

1. Identify the existence of economic obsolescence
2. Quantify the amount of economic obsolescence

Procedures to Identify the Existence of Economic Obsolescence

It is appropriate for the analyst to consider economic obsolescence in every cost approach valuation analysis. There are several conditions that may indicate the existence of economic obsolescence.

Exhibit 5 lists some of the conditions that may indicate the existence of economic obsolescence with regard to the intangible asset.

While none of these owner/operator conditions specifically measures the amount of economic obsolescence, the existence of one or more of these conditions may indicate the existence of economic obsolescence. In order to measure economic obsolescence, the analyst typically considers the following:

1. Owner/operator-specific factors
2. Industry factors

Procedures to Measure Economic Obsolescence

Most of the analyses performed to quantify economic obsolescence are performed on a comparative basis. The comparative basis may be (1) the owner/operator's actual operating results with the economic obsolescence effect compared to (2) the owner/operator's hypothetical (e.g., historical or projected) operating results without the economic obsolescence effect.

Alternatively, the comparative basis may be (1) the owner/operator's actual operating results "with" the economic obsolescence effect compared to (2) one or more comparable entity's operating results "without" the economic obsolescence effect.

Exhibit 5
Owner/Operator Conditions That May Indicate the Existence of Intangible Asset Economic Obsolescence

1. The entity's income approach value indication is less than the entity's asset-based approach value indication.
2. The entity's market approach value indication is less than the entity's asset-based approach value indication.
3. The owner/operator revenue has been decreasing in recent years.
4. The owner/operator profitability has been decreasing in recent years.
5. The owner/operator cash flow has been decreasing in recent years.
6. The owner/operator product pricing has been decreasing in recent years.
7. The industry/profession revenue has been decreasing in recent years.
8. The industry/profession profitability has been decreasing in recent years.
9. The industry/profession cash flow has been decreasing in recent years.
10. The industry/profession product pricing has been decreasing in recent years.
11. The owner/operator profit margins have been decreasing in recent years.
12. The owner/operator returns on investment have been decreasing in recent years.
13. The industry/profession profit margins have been decreasing in recent years.
14. The industry/profession returns on investment have been decreasing in recent years.
15. The industry/profession competition has been increasing in recent years.
16. The industry/profession has experienced regulatory changes in recent years.

Given the comparative nature of economic obsolescence analyses, a noncomparative analysis may not be adequate to allow the analyst to measure economic obsolescence.

The analyst may have to review the owner/operator's financial documents or operational reports in order to quantify many types of economic obsolescence.

These types of owner/operator documents may include the following:

- Financial statements or financial results of operations
- Financial budgets, plans, projections, or forecasts
- Production statements, production cost analyses, or operating cost variance analyses
- Material, labor, and overhead cost of goods sold (or services delivered) analyses
- Fixed versus variable expense operating statements
- Cost/volume/profit analyses
- Unit/dollar sales analyses or average selling price analyses

The analyst may consider the above-listed owner/operator data and documents on a comparative basis, such as the following:

- Actual results versus historical results
- Actual results versus budgeted results
- Actual results versus specific comparative entity results
- Actual results versus specific competitor results
- Actual results versus industry/profession average or benchmark results
- Actual results versus the owner/operator's practical or normal production capacity

The analyst may analyze owner/operator financial data in order to identify the causes of the obsolescence. Particularly with regard to intangible assets, the analyst may analyze business enterprise profit margins, business enterprise returns on investment, industrial/commercial product unit average selling price, industrial/commercial product unit cost of goods sold, or industrial/commercial product unit sales volume.

The analyst will look for some external factor that may cause the owner/operator to earn less than a fair rate of return on the intangible asset cost approach value indication.

A specific description of the various methods the analyst may use to quantify economic obsolescence is outside the scope of this discussion. However, a later section of this discussion presents an example that illustrates the potential procedures the analyst may go through in order to estimate:

1. the intangible asset cost components and
2. the various forms of intangible asset depreciation (e.g., functional obsolescence and economic obsolescence).

But first, the following sections describe some analyst errors and misconceptions with regard to the cost approach (particularly with regard to the TAB adjustment).

Income Tax Amortization Benefit Adjustment

There is a diversity of practice with regard to the application of the TAB adjustment as part of a cost approach valuation of an intangible asset. Some analysts apply the TAB adjustment to the cost approach valuation of intangible assets.

However, the application of the TAB adjustment is often inappropriate, and it is typical to exclude the TAB adjustment from a cost approach valuation analysis. This is because there are no income tax considerations (for amortization tax deductions or otherwise) in the application of the cost approach. This statement is true in the application of the cost approach to the fair value measurement of both tangible assets and intangible assets.

The direct costs and indirect costs that are included in any cost approach method cost measurement should be considered simply as expenditures. Those expenditures should not be considered as either a before-tax expense or an after-tax expense.

The cost approach recognizes costs to the hypothetical buyer or hypothetical seller. The cost approach does not consider expenses—as expenses would be recognized in other financial accounting purposes or income tax reporting purposes.

The costs included in the cost approach are expenditures that are paid to create an alternative (e.g., the replacement or the reproduction) intangible asset. Therefore, it is usually not appropriate to tax affect (or to consider any income tax considerations) related to such intangible asset development expenditures.

Effectively, there are no income tax considerations in the application of the cost approach. In contrast, income tax considerations are relevant to the application of the income approach to intangible asset valuation.

Such income tax considerations relate to both:

1. the measure of income subject to analysis and
2. the present value discount rate and the direct capitalization rate.

The Appraisal Foundation published *Appraisal Practices Board VFR Valuation Advisory 2: The Valuation of Customer-Related Assets* ("VFR 2"). VFR 2 states that, when applying the cost approach to estimate the fair value of customer-related intangible assets, "the costs estimated in this method are investment costs and not period costs, and therefore the conclusion of the cost approach should not be tax affected. Nor should the conclusion be adjusted for the TAB adjustment, as a pretax conclusion is consistent with an exit price that a market participant would receive for the asset."

The above-listed VFR 2 logic applies specifically to a fair value measurement of customer-related intangible assets. Nonetheless, the same VFR 2 logic is broadly applicable to the application of the cost approach to other intangible assets for other purposes.

The Application of the Mandatory Performance Framework for the Certified in Entity and Intangible Valuations Credential ("AMPF") also considers the topic of the TAB adjustment with respect to the application of the cost approach. AMPF states that a TAB adjustment should be considered when measuring the fair value of an intangible asset, but a TAB should only be applied when it is appropriate.

Specifically, AMPF states, "a TAB is generally considered appropriate when estimating the fair value of an entity using an income approach for a presumed taxable transaction. However, when the cost approach (unless a cost savings method) . . . is used, a TAB is not appropriate (a) under a non-taxable transaction, (b) when pre-tax costs are expended, or (c) when the price paid reflects the full fair value of the entity."[4]

Ultimately, if a "pretax" cost approach is used to estimate the value of an intangible asset, the addition of a TAB adjustment is typically not considered to be appropriate.

In contrast, the addition of a TAB adjustment is typically considered appropriate in the application of the so-called cost savings method (i.e., an income

approach valuation method to value an intangible assets).

The TAB adjustment is typically appropriate in the application of the income approach to value intangible assets. Effectively the TAB adjustment:

1. decreases the income tax expense related to the subject intangible asset income projections and
2. increases the after-tax income related to the subject intangible asset.

However, neither income tax expense nor after-tax income are components in the application of a cost approach fair value measurement.

In some applications of the income approach to intangible asset fair value measurement, it may be appropriate for the analyst:

1. to project a pretax income measure and
2. to apply a pretax discount rate or capitalization rate.

In some applications of the income approach to intangible asset fair value measurement, it may be appropriate for the analyst:

1. to project an after-tax income measure and
2. to apply an after-tax discount rate or capitalization rate.

In the latter instance (i.e., the after-tax analysis), the application of the TAB adjustment recognizes the temporary additional income tax deduction associated with the intangible asset amortization deduction.

Effectively, that additional amortization income tax deduction corrects the (temporarily) overstated pretax income projection related to the intangible asset. And, that additional amortization income tax deduction corrects the (temporarily) overstated effective income tax rate in the income approach analysis related to the intangible asset.

In other words, the TAB adjustment is made, in effect, to correct an artificially overstated projection of pretax income and an artificially overstated income tax rate that is applied in the unadjusted income approach analysis.

Nonetheless, there is no income tax component (implicit or explicit) in the cost approach analysis that needs to be adjusted due to the income tax amortization (or the lack thereof) of the subject intangible asset. This is because the cost approach considers capitalizable expenditures (i.e., intangible asset development costs), and not period expenses.

There is no pretax income or expense projection variables—and there are no effective income tax rate variables—applied in any cost approach valuation method. Therefore, there are no tax-related valuation variables to correct—or adjust—in the application of the cost approach to tangible asset fair value measurement or intangible asset fair value measurement.

As a simple analogy, let's consider an assignment to estimate the fair market value of a piece of industrial machinery (i.e., tangible personal property). In order to value that piece of machinery, the analyst may apply the cost approach—using the same (or a similar) methodology as previously discussed for the purpose of valuing an intangible asset.

Let's assume that the analyst estimates the RCNLD for the piece of machinery to be $600,000.

Let's assume that the tangible property owner/operator would pay the equipment manufacturer $1,000,000 for the new piece of machinery. That is, the equipment RCN would be $1,000,000.

Let's assume that the subject equipment is 4 years old and has a total expected useful life of 10 years. Assuming straight line useful life depreciation for the machinery, the subject equipment physical depreciation adjustment would be $400,000.

Again, for simplicity purposes, let's assume that the analyst concludes that there is no functional obsolescence or external (economic) obsolescence associated with the subject equipment.

Accordingly, the RCNLD related to the subject equipment would be $600,000 (i.e., $1,000,000 RCN minus $400,000 of physical depreciation equates to a $600,000 RCNLD).

In the valuation of that piece of machinery, the analyst would not further adjust the concluded RCNLD value indication for the present value of the income tax benefit the owner/operator will enjoy in the form of depreciation deductions on that piece of equipment over, say, a modified cost recovery system ("MCRS") depreciation period.

The analyst may recognize that, in fact, the owner/operator will be able to claim an annual income tax deduction related to the depreciation of the piece of machinery.

And, if an income approach method were applied to value that piece of machinery, it may be appropriate for the analyst to make an adjustment for the present value of the income tax benefit associated with those future depreciation-related income tax deductions.

However, since the cost approach was applied in this analysis, and since no income tax component is considered in the cost approach, it would be

inappropriate to take that depreciation tax benefit into account in the cost approach value conclusion for the subject equipment.

That example is analogous to an intangible asset valued by the application of the cost approach. Just as it is inappropriate to make an adjustment to the indicated RCNLD value for depreciation-related income tax deductions when applying the cost approach to value a tangible asset, it is similarly inappropriate to make an adjustment to the RCNLD value for amortization-related income tax deductions when applying the cost approach to measure the fair value of an intangible asset.

This clear distinction between the cost approach and the income approach may sometimes confuse analysts who apply the so-called cost savings method to measure the fair value of an intangible asset. However, the "cost savings method" is actually an income approach valuation method—and not a cost approach valuation method.

For example, let's assume that an owner/operator owns a particularly well known and well trusted trademark. The analyst concludes that, because of the current level of consumer awareness related to the subject trademark, the owner/operator will not have to spend $1,000,000 per year on institutional advertising for the next 10 years.

Therefore, the analyst may value the trademark by considering the present value of the $1,000,000 annual advertising "cost" avoided over the next 10 years.

In this cost savings method valuation analysis, the analyst may apply an after-tax discount rate to an after-tax projection of advertising expense savings. And, the analyst may also apply a TAB adjustment in order to conclude the value indication for the subject trademark.

However, it is noteworthy that this hypothetical example illustrates the application of the income approach and the cost saving method (sometimes called the cost avoidance method). This example does not illustrate the application of any cost approach valuation method to value the subject trademark.

Some analysts may confuse the cost approach RCNLD method with the income approach cost savings (or cost avoidance) method.

As discussed, the cost savings method is an income approach valuation method. This is because it is based on the present value of some avoided tax-deductible operating (period) expense (e.g., advertising expense, selling expense, shipping and delivery expense, research and development expense, etc.). It is not based on the measurement of intangible asset development costs.

Therefore, a TAB adjustment may be appropriate when applying the income approach cost savings method to value an intangible asset. That is because the cost savings method will often apply after-tax expense savings and an after-tax present value discount rate.

In contrast, the cost approach RCNLD method has no income tax component. Therefore, it is typically inappropriate to apply a TAB adjustment within the application of a cost approach valuation method.

As discussed above, the cost approach typically does not consider income taxes and, therefore, should not consider a TAB adjustment. However, there may be instances in which it is appropriate to consider applying a TAB adjustment to the cost approach value indication.

For instance, when performing a fair value measurement for financial accounting purposes, the analyst may be asked by the subject company's auditor to consider a TAB adjustment in the cost approach valuation of certain intangible assets.

Some additional errors and misconceptions with regard to the application of the cost approach are discussed further in the following section.

Errors and Misconceptions in the Application of the Cost Approach

There are many considerations that may be made, assumptions that may be selected and supported, and procedures that may be completed in order to apply the cost approach to the fair value measurement of an intangible asset. This section summarizes some of the analyst errors and misconceptions with regard to the application of the cost approach in the intangible asset fair value measurement.

First, without conducting an analysis, there is no reason to expect the value indication produced by applying the cost approach to be the same as the accounting book value of the subject intangible asset. The application of any cost approach valuation method will typically produce a value indication that is different from the historical-cost-based accounting book value recorded on the owner/operator's balance sheet as of the valuation date.

Second, the cost approach considers the current costs to develop a new intangible asset. The cost approach may include forward-looking components. This is because the cost approach considers such

current and forward-looking analysis components as developer's profit, entrepreneurial incentive, and functional and economic obsolescence.

Third, the cost savings (sometimes called cost avoidance) method is an income approach valuation method—and not a cost approach valuation method. Some analysts incorrectly assume that, because the cost savings method includes the word "cost" in the name, that it is a cost approach valuation method.

In contrast, the cost savings method is based on the present value of projected expense savings to the intangible asset owner/operator. That analysis of future operating expense (including any savings of a future operating expense) is different from the cost approach. The cost approach analyzes the expected future (capitalizable) expenditures required to develop a new intangible asset.

Fourth, the cost approach considers capitalizable expenditures (i.e., costs) and not current period expenses. This is another procedural difference between the cost approach and the income approach.

Fifth, the cost approach should consider an opportunity cost (i.e., lost income during the intangible asset replacement period) component within the analysis. The opportunity cost component is often referred to as entrepreneurial incentive.

Sixth, the cost approach should consider all forms of obsolescence. That is, the application of the cost approach should consider functional obsolescence (i.e., the inability of the intangible asset to perform the function it was designed to perform). In addition, the application of the cost approach should consider economic obsolescence (i.e., the inability of the owner/operator to earn a fair rate of return on the intangible asset cost approach value indication).

Seventh, it is generally inappropriate to apply a TAB adjustment to a cost approach value indication. This is because the cost approach analysis does not consider any adjustment for income tax expense within the valuation analysis. The application of a TAB adjustment inappropriately introduces a tax adjustment to the cost approach valuation analysis.

However, it may be appropriate for the analyst to apply a TAB adjustment in certain fair value measurement analyses in order to comply with the relevant financial accounting guidance.

In particular, considerations specific to the application of the cost approach in the context of a fair value measurement assignment are discussed in the following section.

Considerations Specific to Fair Value Measurement Assignments

Typical fair value measurement assignments involving intangible asset valuation include the following:

1. Intangible asset valuations prepared in the context of the acquisition accounting for a business combination (related to ASC Topic 805)
2. Intangible asset valuations performed in the context of testing for intangible asset impairment and goodwill impairment (related to ASC Topic 350).

Fair value measurements of private equity or venture capital fund portfolio investments may also involve valuations of intangible assets that were developed and owned by the portfolio company. Such an intangible asset valuation may be included in an asset accumulation method valuation analysis of the portfolio company.[5]

Each of the above-mentioned assignments typically involves the discrete valuation of an intangible assets as a component of the fair value measurement analysis.

Purchase accounting fair value measurement assignments are conducted after a business combination transaction. With limited exceptions, the ASC Topic 805 business combination provisions require the measurement of the assets acquired and the liabilities assumed to be recognized at acquisition date fair values.

The impairment testing of intangible asset carrying amounts may be conducted on a regular basis (typically annually) related to post-acquisition accounting. Under U.S. generally accepted accounting principles ("GAAP"), the guidance for impairment testing of indefinite-lived intangible assets and goodwill is provided in ASC Topic 350.

Both purchase accounting fair value measurements and indefinite-lived intangible asset or goodwill impairment testing assignments involve the fair value standard of value as prescribed by ASC Topic 820, *Fair Value Measurements*.

ASC Topic 820-10-20 defines fair value as "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."

Accordingly, the fair value standard of value may differ from other standards of value in that a fair value measurement should reflect all of the assumptions that market participants would use in

the pricing of an asset or liability, and not necessarily the specific reality or assumptions of the actual intangible asset owner/operator.

When preparing a fair value measurement for a financial accounting assignment, there are often additional procedures that the analyst should consider in order to take the perspective of a market participant.

The following list provides some of those fair-value-measurement-specific procedures that analysts should perform when developing an intangible asset fair value measurement for financial accounting purposes:

- Select the appropriate market for the intangible asset.
- Identify the market participants.
- Apply market participant assumptions.
- Determine the highest and best use for the intangible asset.

The owner/operator entity's intended use of an asset is typically not considered relevant for purposes of measuring fair value under ASC Topic 820. This is because the definition of fair value is market-based.

Typically, the analyst first begins with the actual circumstances or assumptions that may be applicable to the subject intangible asset owner/operator. Then, the analyst performs procedures to assess if evidence exists that market participants would make different assumptions.

In addition, certain components of a cost approach analysis may be analyzed and quantified differently in a fair value measurement assignment due to the market participant perspective. For example, an analyst performing a fair value measurement should consider whether a market participant would be willing to pay for the developer's profit or the entrepreneurial incentive components of the cost approach.[6]

The ASC topics contain specific guidance as to the scope and the application of the ASC Topic 820 standard. It is important for the analyst to comply with the ASC Topic 820 guidance when preparing valuations in compliance with GAAP. Accordingly, the analyst should refer to the relevant ASC topic when performing a fair value measurement for financial accounting purposes.

And while the ASC guidance establishes specific guidance for fair value measurement reporting, it does allow for professional judgment. For example, there may be diversity of practice with regard to certain procedures in developing a fair value measurement under ASC Topic 820.

One example of this diversity of practice is the treatment of the TAB adjustment. However, the relevant ASC guidance should be adhered to when preparing and documenting the processes and procedures performed in developing the fair value measurement even when professional judgment is applied.

Mandatory Performance Framework

Analysts should be aware of the recent developments related to fair value measurements and financial accounting assignments. These developments include:

1. the CEIV credential and
2. the publication of the MPF.

The CEIV credential is offered by several valuation professional organizations, including the American Institute of Certified Public Accountants ("AICPA"). This valuation credential was developed specifically with regard to valuations performed for fair value measurement and financial accounting purposes.

One of the important consequences of the development of the CEIV credential is the implementation of the MPF.

The MPF is defined in the *Mandatory Performance Framework for the Certified in Entity and Intangible Valuations Credential* as "a document for valuation professionals that provides guidance on how much support, in terms of scope of work and documentation, should be prepared or obtained when designing, implementing, and conducting valuations of businesses, business interests, intangible assets, certain liabilities, and inventory used for management assertions made in financial statements issued for financial reporting purposes."

Only CEIV credential holders are currently required to comply with the provisions of the MPF (note that the "M" in MPF stands for "mandatory").

However, for valuation professionals who do not obtain the CEIV credential, the Performance Framework task force (the task force that developed the MPF) believes that the MPF (1) represents best practices and (2) provides instructional guidance and parameters that will improve the level of documentation and work related to fair value measurement and other financial accounting valuation assignments.

This MPF professional guidance particularly relates to due diligence procedures and to analysis documentation and support.

The MPF consists of the following four sections:

- Preamble—which provides an overview of the framework's scope and purpose.
- Valuation Engagement Guidance—which establishes the parameters of the documentation requirements to which valuation professionals should adhere.
- Mandatory Performance Framework Glossary—which sets forth the definitions of terms that may be unique to the framework and, when necessary, defines their meaning within the context of the framework.
- Authoritative and Technical Guidance—which includes a list of accounting standards, auditing standards, valuation standards, and certain technical literature applicable to the guidance presented in the framework.

In addition, a separate document, *Application of the Mandatory Performance Framework for the Certified in Entity and Intangible Valuations Credential* ("the Application"), provides specific guidance on the application of the MPF to specific subject matter interests.

The MPF and the Application emphasize procedures to intangible asset valuation that relate to the market approach and the income approach consistently with the fair value standard for financial reporting.

The MPF and the Application also provide relevant guidance concerning the application of the cost approach to intangible asset valuation for fair value measurement purposes. Among other topics, the MPF includes professional guidance related to the estimate of the TAB adjustment, the discount rate derivation, the application of valuation discounts and premiums, the estimate of the intangible asset UEL, the valuation of the assembled workforce, and the reconciliation of intangible assets values when multiple valuation approaches are used.

In addition to providing guidance on the factors to consider while performing an intangible asset valuation, the MPF explains minimum scope of work and due diligence procedures that the analyst should perform when selecting and applying the cost-based approach, as well as other generally accepted valuation approaches and methods.

While it is only a requirement for CEIV credential holders to comply with the MPF, it is still considered best practice for noncredentialed analysts to follow the guidance presented in the MPF when performing fair value measurement assignments for financial accounting purposes.

Simplified Illustrative Examples of the Cost Approach

Illustrative Example 1

The simplified illustrative example below involves the application of the cost approach in the valuation of internally developed computer software. This illustrative example is based on the following assumptions:

- Theta, LLC ("Theta"), is the owner/operator of the software.
- Theta is a management consulting company.
- The valuation date is January 1, 2021.
- Computer software is important to the Theta business operations.
- The standard of value is fair value.

The Theta IT staff has developed numerous computer software programs over the years. All of these programs may be grouped into the seven major software systems listed in Exhibit 6.

The analyst worked with the Theta IT management to estimate the amount of effort required to replace the functional equivalent (i.e., the economic utility) of the software as of the valuation date. The estimates of the number of development effort person-months required to replace the utility of each of the subject systems are listed in Exhibit 6.

The analyst concluded it would require about 11,856 person-months to replace the functionality of the subject software.

The analyst studied the actual software development costs at Theta during the year 2020. Based on this study, the analyst concluded that the average cost per person-month for the Theta software development effort was $14,585.

That total cost includes all direct costs and all indirect costs related to the company's actual IT software development efforts. Therefore, that cost per IT person-month is a full absorption software development cost estimate.

The analyst estimated the developer's profit component related to the software RCN. The analyst surveyed several customized software development companies, of the type that would accept contracts to actually replace the subject systems.

Exhibit 6
Theta, LLC
Internally Developed Computer Software
Cost Approach
Replacement Cost New less Depreciation Method
Valuation Summary
As of January 1, 2021

System No.	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 (includes direct and indirect cost components)	Indicated RCNLD Method Component $000
1	AS/400	4,531	29	$14,585	66,100
2	Point of Sale	575	25	14,585	8,400
3	Tandem	3,304	16	14,585	48,200
4	Unisys	1,229	5	14,585	17,900
5	Pioneer	1,807	41	14,585	26,400
6	Voyager	325	12	14,585	4,700
7	Host to Host	85	9	14,585	1,200
	Total Direct Cost and Indirect Cost Components (rounded)	11,856	24		172,900
	Plus: Developer's profit (rounded)				27,700
	Equals: Subtotal				200,600
	Plus: Entrepreneurial Incentive (rounded)				31,200
	Equals: Total Replacement Cost New				231,800
	Less: Functional Obsolescence (see Exhibit 7)				36,900
	Equals: Subtotal				194,900
	Less: Economic Obsolescence, at 19% (see Exhibit 8)				37,000
	Equals: Computer Software RCNLD				157,900
	Fair Value of Theta Internally Developed Computer Software (rounded)				$158,000

These software development companies indicated that they would charge a 16 percent operating profit margin (over their total actual development costs) to replace the subject software. The analyst added this developer's profit cost component to the RCN estimate.

As indicated in the "Elapsed Time to Develop" column in Exhibit 6, it would take, on average, 24 elapsed months to develop and install all of the hypothetical replacement software. These software systems are important to the Theta ongoing business operations. Without these (or equivalent) software systems, Theta cannot operate as a management consulting firm.

Therefore, the analyst decided to estimate the entrepreneurial cost component as the opportunity cost related to total operating profits for a 24-month software replacement period.

The analyst estimated the normalized operating profits (measured here as earnings before interest and taxes or "EBIT") for a 24-month software replacement period.

Working with Theta financial management, the analyst concluded that this 24-month opportunity cost (i.e., total company lost profits without the computer software in place) is $31,200,000. The analyst included this opportunity cost amount as the entrepreneurial incentive cost component.

Including all four cost components, the analyst estimated the subject software RCN to be $231,800,000.

During the due diligence examination, the analyst learned that both the Unisys system and the Pioneer system are currently in the process of being replaced. The Theta IT department is in the process of developing replacement applications software for both systems. In fact, the Unisys system is expected to be replaced in one year, and the Pioneer system is expected to be replaced within three years.

Based on these time period estimates, and working with Theta IT management, the analyst estimated that (1) the Unisys system is 80 percent functionally obsolete and (2) the Pioneer system is 50 percent functionally obsolete.

The analyst estimated functional obsolescence related to the subject software as summarized in Exhibit 7.

During the due diligence, the analyst learned that most of the software was developed and installed between five and eight years ago. During that earlier time period, Theta was much more profitable than it is now.

Due to intense competition in its industry, the company's profit margins, growth rates, and returns on investment have all decreased between (1) the period when the subject software was developed (i.e., 2013 through 2016) and (2) the current period (i.e., latest 12 months ["LTM"] of 2020).

The analyst considered these factors in the assessment of economic obsolescence. The analyst prepared Exhibit 8 to summarize some of the economic obsolescence elements considered in the software valuation.

Based on the analysis of the financial and operational metric presented in Exhibit 8, the analyst selected 19 percent as the appropriate economic obsolescence measurement. The analyst applied this economic obsolescence percentage to the RCNLD (replacement cost new less depreciation) indication presented in Exhibit 6.

Based on the illustrative facts presented above, the analyst completed the computer software valuation.

Based on the application of the cost approach, the analyst concluded that the fair value of the Theta internally developed computer software was $158,000,000 as of January 1, 2021.

Illustrative Example 2

As a second example illustrating an application of the cost approach, let's assume that the analyst is asked to value an internal medicine practice. Let's call this internal medicine practice the Beta Group ("Beta"). The valuation date is December 31, 2020.

A local not-for-profit hospital, Gamma Hospital ("Gamma"), intends to approach the Beta practice owners with an unsolicited offer to buy the practice assets. Accordingly, the Gamma board of directors has retained the analyst to estimate a purchase offer price for the Beta practice assets.

Let's say the Beta practice employs 10 physicians, 20 clinical staff members (registered nurses, medical technicians, etc.), and 10 administrative staff (billing clerks, receptionists, etc.). As part of the practice valuation, the analyst estimates the value of the Beta assembled workforce.

The analyst decides to apply the cost approach and the RCNLD method.

An assembled workforce is often considered a contributory asset. The MPF defines contributory assets as "any tangible or intangible assets used in

Exhibit 7
Theta, LLC
Internally Developed Computer Software
Cost Approach
Functional Obsolescence Analysis
As of January 1, 2021

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	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

Exhibit 8
Theta, LLC
Internally Developed Computer Software
Cost Approach
Economic Obsolescence Analysis
As of January 1, 2021

Theta Financial and Operational Metrics	Average of 2013–2016	LTM 2020	Percent Difference
EBIT Profit Margin	24%	20%	-16.7%
Net Cash Flow Margin	12%	10%	-16.7%
Pretax 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 Deficiency in Metrics			-19.5%
Median Percent Deficiency in Metrics			-18.4%
Trimmed Mean Percent Deficiency in Metrics			-18.8%
Selected Economic Obsolescence			-19%

the generation of the cash flows associated with the subject intangible asset that it being valued."[7]

Income approach valuation methods applied to intangible assets typically include consideration of contributory asset charges (i.e., charges against revenue in a cash flow projection that reflect a return on or of contributory assets used in the generation of the cash flow from the intangible asset being valued).

However, since the cost approach does not involve a projection of income or cash flow, it is typically unnecessary to consider contributory asset charges if the subject intangible assets (or asset) are all being valued by applying a cost approach.

Still, contributory assets such as an assembled workforce are often valued for other purposes, often for inclusion in a broader valuation engagement. For example, a contributory asset such as an assembled workforce may be valued in order to estimate a contributory asset charge to apply to another intangible asset that is valued by applying an income approach valuation method.

Exhibit 9 presents a simplified illustration of the analyst's RCNLD method valuation of the Beta assembled workforce.

As indicated in Exhibit 9, the analyst estimated the RCN for the 50-person workforce to be $3,652,000. Of course, this RCN does not indicate the value of the assembled workforce. The RCN indicates the cost for the owner/operator to replace all of the current 50 employees with new employees of comparable experience and expertise.

The RCN estimate considers the total amount of compensation paid to each practice employee, labeled as "average salary" in Exhibit 9. In the RCN analysis, these costs are typically called direct costs.

The RCN estimate also considers all of the other expenses that the owner/operator incurs related to each employee. Those costs are typically called indirect costs.

So, the total annual cost that the owner/operator pays for an employee is called the full absorption cost in Exhibit 9. This full absorption cost includes (1) the compensation paid by the employer to the employee and (2) the expenses paid by the employer to others so that the employee can perform his or her job.

The RCN estimate includes all of the costs that the employer would incur to replace the current workforce with a brand new (but comparable) workforce.

In Exhibit 9, the analyst expressed the replacement cost components as a percent of the employee full absorption cost. Alternatively, the analyst could calculate the replacement cost components as dollars per employee, dollars per year of employee tenure, or some other dollar or percentage metric.

The figure of $3,652,000 represents the direct cost and indirect cost components related to the assembled workforce. There are two additional cost components for the analyst to consider:

1. Developer's profit
2. Entrepreneurial incentive

For the purpose of this example, the developer's profit considers the profit margin that a management consulting, human resources outsourcing, or professional staffing firm would earn if a willing buyer retained such a firm to create the assembled workforce. Such a professional staffing or consulting firm would incur $3,652,000 in out-of-pocket costs. That firm would expect the subject workforce willing buyer (i.e., Gamma) to reimburse them for such out-of-pocket costs.

In addition, the staffing firm would expect to earn a profit margin. Otherwise, the staffing firm would never accept the assignment to create a replacement workforce.

Likewise, the practice owners would expect to earn a profit on the sale of their internally developed assets to the willing buyer. Otherwise, the owners would not be motivated to enter into the practice sale transaction.

In this example, let's assume that the analyst surveyed professional firms that are in the business of assembling a fully trained workforce for corporate or institutional employers. Let's assume the analyst's survey indicated that such firms would expect to earn a 10 percent operating profit margin on this type of staffing development assignment.

In Exhibit 9, the developer's profit cost component is calculated as (1) the $3,652,000 total direct and indirect costs multiplied by (2) a 10 percent developer's profit margin.

The analyst also considers entrepreneurial incentive in the RCN analysis. This cost component would be required to motivate the owner/operator to develop the subject intangible asset—instead of pursuing some other investment opportunity.

There are several alternative procedures for estimating entrepreneurial incentive. One procedure is to estimate the lost profits opportunity cost that the owner/operator would experience during the intangible asset replacement period.

When using this procedure, the analyst should be careful to appropriately allocate the owner/operator's overall profit to all of the business intangible assets.

Exhibit 9
The Beta Group
Trained and Assembled Workforce
Cost Approach
Replacement Cost New less Depreciation Method
Replacement Cost New Estimate
As of December 31, 2020

Assembled Workforce Employee Component	No. of Employees	Average Salary	Other Costs Factor	Full Absorption Cost	Percent of the Total Annual (Full Absorption) Cost Required to Recruit Replacement Employees	Hire Replacement Employees	Train Replacement Employees	Percent of Full Absorption Cost to Replace Employees	Average Replacement Cost New Component	Total Replacement Cost New Component
Physicians	10	180,000	1.6	288,000	20%	20%	40%	80%	230,400	$2,304,000
Clinical Staff	20	60,000	1.5	90,000	10%	10%	30%	50%	45,000	900,000
Administrative Staff	20	40,000	1.4	56,000	5%	10%	25%	40%	22,400	448,000
Total Employees	50									
Total Direct Cost and Indirect Cost Components										3,652,000
Add:										
Developer's Profit Cost Component:										
Developer's Profit Margin										10%
Developer's Profit Cost Component (rounded)										365,000
Total Direct Cost and Indirect Cost plus Developer's Profit										4,017,000
Add:										
Entrepreneurial Incentive:										
Estimated Total Workforce Replacement Period					6 Months					
Estimated Average Workforce Replacement Cost Investment (i.e., $4,017,000 total cost ÷ 2)					$2,009,000					
Required Annual Return on Investment					16%					
Required Return on Investment for 6-Month Replacement Period					8%					
Entrepreneurial Incentive (i.e., $2,009,000 × 8%) (rounded)					$161,000					161,000
Total Replacement Cost New										$4,178,000

Another entrepreneurial profit measurement procedure is to calculate a fair rate of return on the total intangible asset cost components (i.e., direct costs, indirect costs, and developer's profit).

The premise of this entrepreneurial profit measurement procedure is that the owner/operator would not develop the replacement intangible asset if it did not expect to earn a fair rate of return on its total development investment—during the total development period.

Let's assume that the analyst applied this second entrepreneurial incentive measurement procedure in the assembled workforce valuation. Let's assume that the total elapsed workforce recreation period will be six months.

From Exhibit 9, the average investment during the six-month period will be $2,009,000. Let's assume the analyst calculates a fair return on investment for Beta to be 16 percent. This return on investment is often measured as the owner/operator's weighted average cost of capital ("WACC").

In the Exhibit 9 example, the $2,009,000 total investment is multiplied by the required annual rate of return of 16 percent, adjusted for the six-month development period.

In Exhibit 9, the total entrepreneurial incentive is estimated to be $161,000. This is the fourth RCN cost component. The total assembled workforce RCN is the sum of all four cost components, or $4,178,000.

Finally, in Exhibit 9, the analyst estimates the cost to replace the current 50 employees with 50 new employees of comparable experience and expertise. Since the RCN estimate includes a job training component, these 50 new employees (1) would know how to do their jobs and (2) could work together efficiently on the hypothetical replacement date.

Exhibit 9 summarizes the assembled workforce RCN. In order to reach a value conclusion, the analyst next has to estimate the RCNLD of the workforce. As in any cost approach analysis, the analyst has to consider if there is any deterioration or obsolescence related to this intangible asset.

From the practice acquisition due diligence, the analyst learns the following facts about the Beta assembled workforce:

- Two of the practice's lab techs (part of the clinical staff) are scheduled to retire in the next year or so.
- One of the practice's billing accountants (part of the administrative staff) is out on disability leave and is not expected to return to work.
- The practice is overstaffed with regard to administrative personnel; in addition to the above-mentioned billing accountant, any typical willing buyer would eliminate two of the administrative positions.
- The practice has experienced very low turnover of the clinical staff. Because of long tenure of these nurses and technicians, they earn an average annual salary of $60,000 (see Exhibit 9). If the actual clinical employees were replaced, they would be replaced with adequately qualified (but less tenured) employees earning an average annual salary of $50,000.

Now, the analyst has all of the information necessary to calculate the appropriate physical deterioration and functional obsolescence allowances for the Beta assembled workforce.

In Exhibit 12, the analyst estimates the amount of physical deterioration. Exhibit 10 considers that two clinical staff will retire soon. The value of an assembled workforce is the owner/operator's expectation that employees will show up for work, be fully trained, and be able to do their jobs effectively and efficiently.

If a willing buyer will soon have to incur the cost to recruit, hire, and train replacement employees, then that buyer will not pay the seller for the value of the retiring (and soon to be replaced) employees. Exhibit 10 also considers that one administrative employee is, in fact, not showing up for work. That administrative employee is on disability leave.

Both of these two replacement cost adjustments relate to (1) age (impending retirement) and (2) inability to perform the job (disability). Therefore, these two cost adjustments are appropriately classified as physical deterioration.

In Exhibit 10, the developer's profit and entrepreneurial incentive cost components are based on these same cost component relationships to total direct cost and indirect cost as are represented in Exhibit 9.

Exhibit 11 presents the analyst's estimate of the workforce functional obsolescence. This functional obsolescence estimate considers that the Beta workforce has a superadequacy of two administrative employees.

This functional obsolescence estimate also considers that the Beta workforce has a superadequacy of excess experience in the clinical staff. This superadequacy is causing the average replacement salary for the clinical staff to be $10,000 greater than the desired clinical staff replacement salary.

Exhibit 10
The Beta Group
Trained and Assembled Workforce
Physical Deterioration
As of December 31, 2020

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

Exhibit 11
The Beta Group
Trained and Assembled Workforce
Functional Obsolescence
As of December 31, 2020

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

Exhibit 12
The Beta Group
Trained and Assembled Workforce
Cost Approach
Replacement Cost New less Depreciation Estimate
As of December 31, 2020

Cost Approach Analysis	Cost Component
Replacement Cost New (all employees)	$4,178,000
Less: Physical Deterioration Allowance (inadequate staff)	128,600
Less: Functional Obsolescence Allowance (superadequate staff)	206,000
Equals: Replacement Cost New less Depreciation	$3,843,400

This excess replacement salary causes the average annual full absorption cost to be $15,000 greater than the desired clinical staff replacement cost. As a result, the excess full absorption cost causes the average RCN (direct cost and indirect cost component) per clinical employee to be $7,500 greater than the desired replacement cost per employee.

Both of these excess capital costs (i.e., related to excess number of intangible assets and excess quality of intangible assets) relate to superadequacies. Therefore, these two cost adjustments are appropriately classified as functional obsolescence.

In Exhibit 11, the developer's profit and the entrepreneurial incentive cost components bear the same relationship to total direct costs and indirect costs as indicated in Exhibit 10.

Exhibit 12 presents the RCNLD method analysis for the Beta assembled workforce. This RCNLD analysis concludes the value of (1) the appropriately sized practice workforce and (2) the appropriately experienced practice workforce.

The depreciation and obsolescence adjustments are appropriate because a willing buyer would not pay the willing seller for:

- the value of the employees who are not needed or who are not working and
- the value of employees who are overcompensated or overqualified to perform the required tasks.

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

Summary and Conclusion

Analysts may be asked to value an intangible asset for various reasons. In addition to fair value measurements for financial accounting purposes, analysts may be asked to estimate intangible asset value for various transaction, taxation, financing, litigation, bankruptcy, and owner/operator planning purposes.

In all cases, the analyst should consider all generally accepted intangible asset valuation approaches, methods, and procedures. Many analysts are more familiar with market approach and income approach valuation methods.

However, there are numerous instances when cost approach valuation methods are particularly applicable to the intangible asset valuation analysis.

This discussion summarized the procedures and considerations with regard to the application of the cost approach to intangible asset fair value measurement. The cost approach is applicable to the fair value measurement of intangible assets in many industries, particularly the technology, financial services, professional services, and health care industries.

However, the cost approach is only applicable if the analyst:

1. appropriately considers all of the cost components and
2. appropriately identifies and quantifies all obsolescence allowances.

Notes:

1. Corporate and Intangibles Valuation Organization, LLC, Version 1.0, January 2017.
2. See the AICPA Statements on Standards for Valuation Services (or, "SSVS"), Section 100, paragraph 31.
3. Corporate and Intangibles Valuation Organization, LLC, *Application of the Mandatory Performance Framework for the Certified in Entity and Intangible Valuations Credential*, Section A3.4, Version 1.0 (January 2017).
4. As discussed further below, the cost savings method is actually an income approach valuation method, not a cost approach valuation method. Accordingly, while it is typically appropriate to consider and apply a TAB adjustment when applying an income approach valuation method, it is typically not appropriate to apply a TAB adjustment when applying a cost approach valuation method.
5. See, for example, *Accounting and Valuation Guide: Valuation of Portfolio Company Investments of Venture Capital and Private Equity Funds and Other Investment Companies* (AICPA, June 1, 2019), Sections 5.95–5.97.
6. *Accounting and Valuation Guide: Valuation of Portfolio Company Investments of Venture Capital and Private Equity Funds and Other Investment Companies*, Section 5.108.
7. Corporate and Intangibles Valuation Organization, LLC, *Application of the Mandatory performance Framework for the Certified in Entity and Intangible Valuations Credential*, Section A3.7, Version 1.0 (January 2017).

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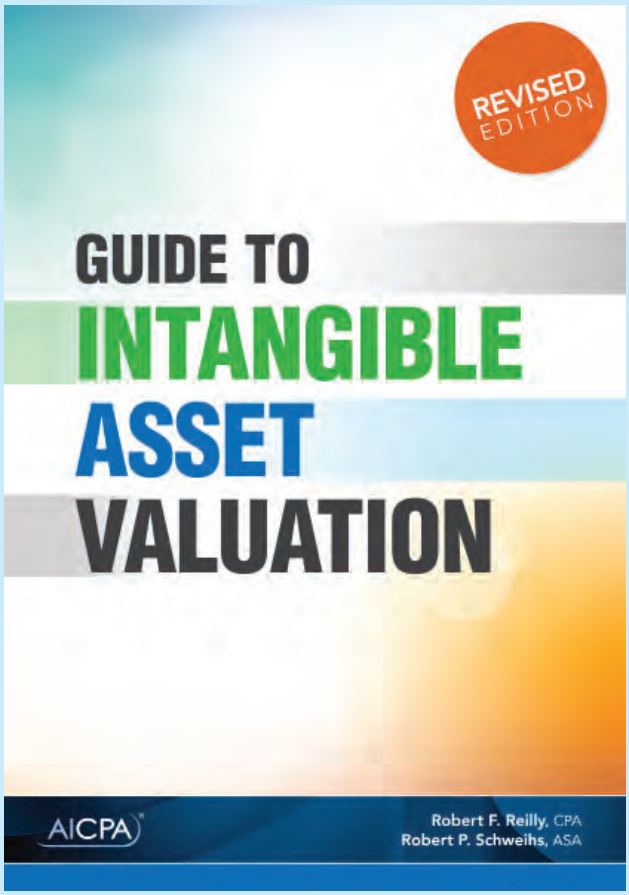
Guide to Intangible Asset Valuation

by Robert F. Reilly and Robert P. Schweihs



This 745-page book, originally published in 2013 by the American Institute of Certified Public Accountants, has been improved! The book, now in hardback, explores the disciplines of intangible asset valuation, economic damages, and transfer price analysis. *Guide to Intangible Asset Valuation* examines the economic attributes and the economic influences that create, monetize, and transfer the value of intangible assets.

Robert Reilly and Bob Schweihs, Willamette Management Associates managing directors, discuss such topics as:

- Identifying intangible assets and intellectual property
- Structuring the intangible asset valuation, damages, or transfer price assignment
- Generally accepted valuation approaches, methods, and procedures
- Economic damages due diligence procedures and measurement methods
- Allowable intercompany transfer price analysis methods
- Intangible asset fair value accounting valuation issues
- Valuation of specific types of intangible assets (e.g., intellectual property, contract-related intangible assets, and goodwill)

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The Fair Value Measurement of Earnouts and Contingent Consideration in the Context of ASC Topic 805: Business Combinations

George Haramaras

This discussion focuses on the fair value measurement of contingent consideration in business combinations for financial accounting purposes. This discussion focuses on the fair value measurement of earnouts. First, this discussion defines and distinguishes the three post-acquisition mechanisms that are often discussed in conjunction with each other: (1) the working capital adjustment, (2) the indemnification escrow account arising from the representations and warranties section in the purchase agreement, and (3) the earnout. These mechanisms are sometimes—though not always—considered contingent consideration. Then this discussion defines and reviews the accounting treatment and standards for contingent consideration. This discussion considers the various types and structures of earnouts, as the specific attributes and structure of earnouts are particularly important in the fair value measurement. Finally, this discussion examines the valuation of earnouts. Specifically, this discussion addresses the relevant principles and factors the analyst should consider in the fair value measurement of earnouts. And, this discussion considers the generally accepted valuation methods applied in the fair value measurement of earnouts.

Introduction

Mergers and acquisitions ("M&A") are inherently complex transactions. In many M&A transactions today, numerous mechanisms exist that deal with consideration after the close of the transaction.

These post-acquisition mechanisms can serve various purposes and are typically included in M&A transactions to ensure that:

- no misrepresentations of information occur by the seller,
- the target business maintains sufficient operating working capital after the close of the transaction so the target business can continue to operate, and
- the seller and buyer achieve alignment on:
  - the risk of future business performance,
  - the price of the target business, and
  - the objectives of future target business performance.

The primary mechanisms that address the factors listed above are typically (1) the working capital adjustment provision, (2) the indemnification

escrow account related to the representation and warranties provision, and (3) the earnout provision.

These mechanisms exist to satisfy practical, strategic objectives. However, while these mechanisms are relatively straightforward in concept, the fair value measurement of these mechanisms can be complex.

Post-Acquisition Mechanisms

There are three provisions that typically involve post-acquisition consideration in some form:

1. **Working Capital Adjustments**. In the purchase agreement, a working capital adjustment provision typically establishes a targeted level of working capital ("target working capital") for the target business at closing and allows for the adjustment of the purchase price at closing based on the variance between target working capital and the actual working capital balance on that date.

   The calculation and definition of working capital as it relates to the working capital adjustment is usually defined in the purchase agreement, and it is usually calculated in accordance with U.S. generally accepted accounting principles ("GAAP")

   When the buyer and seller disagree on the definition or calculation of the working capital balance at closing, a working capital dispute ensues. It is not uncommon for purchase agreements to specify the terms for resolving such disputes.

2. **Indemnification Escrow Accounts Arising from Representations and Warranties**. Representations and warranties are legal terms where a representation is often defined as an assertion of fact, and a warranty is often defined as an assertion of fact with a promise to indemnify or reimburse should the assertion prove false.

   In M&A, representations and warranties are made by one party to the counterparty in a transaction to allocate risk between the parties. Practically, representations and warranties are the relevant facts to the transaction and are made by both the buyer and the seller.

   Although representations and warranties are made by both buyer and seller, the representations and warranties that the seller asserts are typically much more extensive due to the nature of a business acquisition. Therefore, a breach of representations and warranties in an acquisition can lead to the submission of a claim for indemnification by one party (typically the buyer) for damages or losses to be paid by the counterparty (typically the seller).

   In a purchase agreement, a mechanism is sometimes included where an escrow account is utilized to reserve for a potential indemnity incurred by the seller.

   In this situation, a portion of the purchase price is withheld in this indemnification escrow account for a certain time period in order to satisfy any potential claims.

   Increasingly typical are representations and warranties insurance policies, which are a type of insurance policy that protects against losses arising from breaches of representations and warranties.

   Representations and warranties insurance can eliminate the need for indemnification escrow accounts in M&A transactions.

3. **Earnout provisions**. Earnout provisions are contractual provisions that allow for additional consideration (e.g., additional assets or equity) to be paid to the seller after the close of the transaction.

   Additionally, earnout provisions are contingent upon the satisfaction of certain future events. In some earnout provisions, the buyer has the right to take back consideration paid to the seller if certain negative future events are met. In this scenario, such earnout provisions are often referred to as "clawbacks."

These three mechanisms are typically referenced and discussed together, perhaps due to the fact that they deal with the consideration of an M&A transaction after its closing. However, for purposes of defining contingent consideration, it is important to distinguish these M&A mechanisms.

According to the *Valuations in Financial Reporting Valuation Advisory 4: Valuation of Contingent Consideration* (the "Advisory"):[1]

> It is common for a portion of the purchase price in a business combination to be held in escrow to cover items such as working capital adjustments or possible payments related to the seller's satisfaction of representations and warranties . . . given that the definition of contingent consideration is an

> obligation to make a payment "if specified events occur or conditions are met," then if the release of the escrow payment is contingent on whether specified future events occur or conditions are met, the escrow payment may be considered contingent consideration. On the other hand, if the release of the escrow payment is contingent on verifying conditions *that existed at the acquisition date*, generally, the escrow payment would not be considered contingent consideration. Although typically escrow payments for general representations and warranties and working capital adjustments fall into the latter category and are not considered to be contingent consideration, the specific terms of the agreement should be reviewed before making such a determination.

The working capital adjustment and the representations and warranties provisions in the purchase agreement typically involve factors related to the transaction that existed on or before the acquisition date.

Therefore, such mechanisms related to these provisions (i.e., working capital adjustments and indemnification escrow payments) are typically not considered to be contingent consideration. That is, such mechanisms are not contingent upon events that occur after the close of the transaction.

The remainder of our discussion focuses exclusively on the fair value measurement of contingent consideration as it specifically relates to earnouts.

Accounting for Contingent Consideration

In the fair value measurement of earnouts, it is important to first consider the relevant accounting topics associated with contingent consideration.

Contingent consideration is usually analyzed for business combination purposes, specifically in the context of the acquirer. This is because section 805-20-25-1 of the Accounting Standards Codification ("ASC") states that "the acquirer shall recognize, separately from goodwill, the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree."[2]

More specifically, ASC Topic 805 requires that the identifiable assets, liabilities, and equity (in the case of noncontrolling interest) be assigned a portion of the purchase price with respect to their fair values.

The identifiable assets, liabilities, and noncontrolling interest includes contingent consideration. ASC Topic 805-20-25-15A states the following:[3]

> Contingent consideration arrangements of an inquiry assumed by the acquirer in a business combination shall be recognized initially at fair value in accordance with the guidance for contingent consideration arrangements in paragraph 805-30-25-5.

Further, ASC Topic 805-30-25-5, 805-30-25-6, and 805-30-25-7 state the following:[4, 5, 6]

> The consideration the acquirer transfers in exchange for the acquiree includes any asset or liability resulting from a contingent consideration arrangement. The acquirer shall recognize the acquisition date fair value of contingent consideration as part of the consideration transferred in exchange for the acquiree.
>
> The acquirer shall classify an obligation to pay contingent consideration as a liability or as equity in accordance with subtopics 480-10 and 815-40 or other applicable GAAP. For example, subtopic 480-10 provides guidance on whether to classify as a liability a contingent consideration arrangement that is, in substance, a put option written by the acquirer on the market price of the acquirer's shares issued in the business combination.
>
> The acquirer shall classify as an asset a right to the return of previously transferred consideration if specified conditions are met.

The acquirer applies the acquisition method of accounting for an acquisition under ASC Topic 805. In applying the acquisition method, all identifiable assets, liabilities, and noncontrolling interests are allocated a portion of the purchase price.

Additionally, all identifiable assets, liabilities, and noncontrolling interests are measured at fair value. Under ASC Topic 805 and the acquisition method, contingent consideration is required to be recognized.

Depending on the specific terms of the contingent consideration arrangement, contingent consideration may be recognized as either an asset, a liability, or equity.

The recognition and treatment of contingent consideration is clearly specified under ASC Topic 805. However, the ASC also specifies that contingent

consideration be measured at fair value. Regarding measuring contingent consideration at its fair value under ASC Topic 820, the Advisory summarizes:

> The objective of a fair value measurement is to estimate the price at which an orderly transaction would take place between market participants under the market conditions that exist at the measurement date.

ASC 820-10 specifies a fair value hierarchy of inputs for consideration in fair value measurement. The fair value hierarchy classifies inputs into three levels:[7, 8, 9]

> Level 1 Inputs:
>
> Quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity can access at the measurement date.
>
> Level 2 Inputs:
>
> Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
>
> Level 3 Inputs:
>
> Unobservable inputs for the asset or liability.

ASC Topic 805 also provides that in measuring the fair value of instruments classified in liabilities or equity, the fair value hierarchy should be applied.

Additionally, in measuring the fair value of liabilities and equity, quoted prices, observable inputs, and unobservable inputs may be observed in identical items held by other parties as assets.

It is important to consider ASC Topic 820 and the fair value hierarchy of inputs in the fair value measurement of contingent consideration. The fair value hierarchy can have implications for selecting a valuation approach.

Purpose of an Earnout

Earnouts can be executed to satisfy numerous objectives in M&A transactions. Some motivations for relying on earnouts in transactions include the following:

- "Bridging the gap," or settling differences in expectations of the consideration to be paid for the target company
- Mitigating the risk of not meeting future performance expectations
- Incentivizing the seller and other managers to remain (1) a part of the operations of the business and (2) invested in the future performance of the business.

Given that earnouts serve multiple objectives, and since the definition of an earnout—that is, any form of consideration that is paid post-acquisition and based on future events—is broad, earnouts exist in many forms.

The following section examines the attributes that are important for the understanding and fair value measurement of earnouts.

Structuring an Earnout

This section examines the components of an earnout. Specifically, this discussion examines:

1. the type of consideration paid,
2. the contingent events or metrics relied on that determine the payment of consideration, and
3. the specific structure of the payoff.

Forms of Consideration

Earnouts are typically settled in assets (most often, in cash), or in the equity of the acquirer. As previously mentioned, the buyer in an M&A transaction most often transfers assets to the seller.

It is also possible, in the case of a clawback, to structure an earnout where the seller has a contingent obligation to repay the buyer.

Metrics

Metrics represent an important attribute of earnouts. The underlying metric of an earnout represents a benchmark, or measurement, that the contingent consideration is attached to in an earnout. The underlying metric determines the amount of consideration—if any—that is paid.

The range of metrics used in earnouts is broad. The metric used generally must be quantifiable, so that the parties to the earnout provision may clearly and objectively measure the performance of the business and the consideration to be paid.

The selection of a metric serves to achieve the desired objectives of the earnout (e.g., risk mitigation, settling difference in consideration expectations, etc.). And, the metric also structures the nature of the earnout.

Underlying earnout metrics can be broadly classified into two categories:

1. Financial and nonfinancial metrics
2. Milestone event metrics

Financial and nonfinancial metrics are measurements that generally involve performance benchmarks related to the target business. As the name implies, these metrics can be financial or nonfinancial in nature.

Examples of financial metrics include revenue; net income; earnings before interest, taxes, depreciation, and amortization ("EBITDA"); margin percentage benchmarks (e.g., EBITDA margin); or other industry-specific financial earnings metrics (e.g., earnings before interest, taxes, depreciation, amortization, and exploration costs—EBITDAX—for oil and gas companies).

Examples of nonfinancial metrics include number of units (or volume) sold, rental occupancy rates, or number of customers or accounts opened.

What is consistent across financial and nonfinancial metrics is that they are tied to scalable benchmarks of the target business performance.

In contrast, milestone event metrics are tied to the outcome of a specific event. Examples of milestone event metrics are the outcome of a litigation matter, the approval of a patent, or the acquisition of a business. These types of metrics are usually binary in that they consist of two outcomes: (1) the milestone event occurring or (2) the milestone event not occurring.

Underlying metrics are important in the fair value measurement of earnouts because:

1. they contribute, in part, to the earnout payoff structure, and
2. they determine the risk of the earnout.

These factors have implications for the present value discount rate applied in the income approach, as discussed below.

Next, this discussion examines the various payoff structures of earnouts and their fair value measurement implications.

Payoff Structures of Earnouts

The payoff structures of earnouts relate to how the payment of consideration correlates to the underlying metric of the earnout. In other words, payoff structures answer the question of how—and how much—can the earnout be expected to pay out?

The complexity of the answer to the above-question greatly varies. The payoff structures of earnouts can range from simple to complex. Figure 1 below presents various payoff structures of earnouts.[10]

The underlying metric determines, at least partially, the payoff structure of the earnout. In the case of milestone event metrics, the payoff structure typically represents a fixed one-time payment upon the achievement of the milestone event, which is represented in the second example in Figure 1.

In the case of financial and nonfinancial earnout metrics, the simplest payoff structure is a fixed percentage rate of the underlying metric, as presented in the third example in Figure 1.

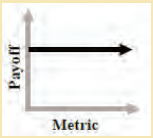
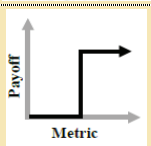
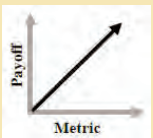
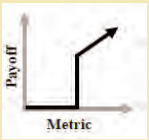
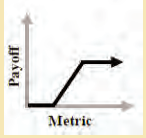
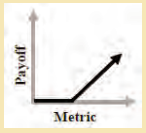
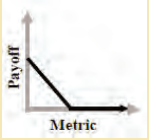
For financial and nonfinancial metrics, examples of complex payoff structures can incorporate some combination of:

1. tiered or changing percentage rates of payment;
2. caps or maximum payments after a certain level of metric is achieved; and
3. thresholds or the achievement of a minimum level of the given metric before payments are awarded.

The first example in Figure 1 represents a nonzero constant payout across all quantities of the

Figure 1
Illustrative Examples of Earnout Payoff Structures

Illustrative Example Earnout Structures

Example	Earnout Structure	Payoff Resemblance to Option or Option Strategy	Payoff	Type of Payoff	Description and Risk Characteristics [a]	Recommended Income Approach Valuation Method
1	Constant (debt-like)	NA		Linear	• A fixed (deferred) payment. • The earnout cash flow is only subject to counterparty credit risk.	NA
2	Milestone payment (digital/binary option)	NA		Nonlinear	• A fixed payment contingent upon achieving a future milestone or performance threshold. • Nonlinear payoff, where the risk of the earnout cash flow depends on the risk of the underlying metric, the impact of the nonlinear structure (which is non-zero if the metric's risk is nondiversifiable) and counterparty credit risk.	Scenario-Based Method
3	Linear	NA		Linear	• Payment is equal to a fixed percentage of the outcome for the underlying metric. • Linear payoff, where the risk of the earnout cash flow is the same as the risk of the underlying metric, plus counterparty credit risk.	Scenario-Based Method
4	Percentage of total above a threshold	Asset-or-Nothing Call Option		Nonlinear	• Payment is equal to a percentage of the underlying metric, but only if a performance threshold is reached. • Nonlinear payoff, where the risk of the earnout cash flow depends on the risk of the underlying metric, the impact of the nonlinear structure, and counterparty credit risk.	Option Pricing Method
5	Excess above a threshold with a cap	Capped Call Option		Nonlinear	• Payment is equal to a percentage of the excess of the underlying metric above a performance threshold, with a payment cap. • Nonlinear payoff, where the risk of the earnout cash flow depends on the risk of the underlying metric, the impact of the nonlinear structure, and counterparty credit risk.	Option Pricing Method
6	Excess above a threshold	Call Option		Nonlinear	• Payment is equal to a percentage of the excess of the underlying metric above a performance threshold. • Nonlinear payoff, where the risk of the earnout cash flow depends on the risk of the underlying metric, the impact of the nonlinear structure, and counterparty credit risk.	Option Pricing Method
7	Clawback	Put Option		Nonlinear	• Payment is equal to a percentage of the shortfall of the underlying metric below a performance threshold. • Nonlinear payoff, where the risk of the clawback cash flow depends on the risk of the underlying metric, the impact of the nonlinear structure, and counterparty credit risk.	Option Pricing Method

[a] The discount rate for any of these structures should consider the time value of money, as well as the risks described in this figure.
Source: *Valuations in Financial Reporting Valuation Advisory 4: Valuation of Contingent Consideration* (Washington, D.C.: the Appraisal Foundation, February 2019).

given metric. Since the payout is nonzero across all levels of the given metric, the first example is not actually contingent consideration but deferred consideration.

Payoff structures can be classified as linear or nonlinear. The first and third examples in Figure 1 represent linear payouts. All other examples in Figure 1 represent nonlinear payouts. It is worth pointing out the linear/nonlinear distinction because this factor can contribute to the selected valuation method with regard to the earnout.

One other important item of note: certain earnout payoff structures bear similar structures to options and various option strategies, as noted in examples four through seven in Figure 1.

Due to certain earnouts' similarities with derivative option instruments, the option pricing method of the income approach can be a particularly relevant method to perform in the fair value measurement of some earnouts, specifically when the earnout payoff structure resembles an option.

A few other factors in the determination of payoff structures include the following:

- The amount of time and the time period the earnout arrangement applies to, and whether there are multiple time periods for which the earnout arrangement applies.
- Whether there are multiple underlying metrics that are driving the earnout (e.g., an earnout that pays out according to both (1) revenue figures and (2) the number of new customers).

Fair Value Measurement of Earnouts

Relevant Fair Value Measurement Concepts for Earnouts

According to the Advisory, there are multiple concepts that are useful in guiding the analyst in the fair value measurement of contingent consideration. These concepts are as follows:

1. Market participant assumptions
2. Probabilistic forecasts
3. Diversifiable risk and nondiversifiable risk
4. The payoff structure of earnouts
5. Risk-neutral valuation

The following discussion summarizes the above-mentioned concepts:

1. **Market Participant Assumptions**. This concept relates to the objective of fair value measurement; specifically, that fair value measurement is the "estimate of the price at which an orderly transaction would take place between market participants . . ."[11]

   In the valuation of contingent consideration, the valuation analyst should evaluate who the market participants represent. In the context of contingent consideration, it is often not immediately clear who market participants would be.

   Buyers could represent a party who would seek to purchase the rights to an earnout's future payments.

2. **Probabilistic Forecasts**. Probabilistic forecasts are typically relied on in the valuation of earnouts. Probabilistic forecasts incorporate (1) various future scenarios (relating to the earnout's underlying metric and earnout payoff) and (2) their respective probabilities.

   A probability distribution represents the set of these future scenarios and their probabilities, and the expected payoff represents the probability-weighted mean of the probability distribution.

3. **Diversifiable Risk and Nondiversifiable Risk**. Risk can be classified between systematic risk or unsystematic risk. Systematic risk represents risk that is applicable to the entire market.

   Unsystematic risk represents risk that is specific to a security or an investment.

   Systematic risk is synonymous with nondiversifiable risk, as this type of risk cannot be eliminated through diversification—a risk management strategy.

   Unsystematic risk is synonymous with diversifiable risk, or risk that is specific to a company, security, or investment and can be diversified away. In valuation, risk is reflected in the rate of return investors require and is represented by the present value discount rate in the income approach.

   As it relates to earnouts, part of the risk associated with the earnout can be classified as either diversifiable or nondiversifiable. Whether the risk is diversifiable or nondiversifiable generally relates to the underlying metric of an earnout.

   Typically, milestone events represent diversifiable risk, while financial metrics

pegged to company performance are nondiversifiable.

Identifying the type of risk associated with the underlying metric is important because risk is a factor in the calculation and estimation of the present value discount rate in the income approach.

In addition to diversifiable and nondiversifiable risk, the credit risk of the counterparty in the earnout arrangement is also a risk factor that is incorporated in the rate of return and the present value discount rate for all types of earnouts.

However, in analyzing risk, the rate of return, and the present value discount rate, the uncertainty of the cash flow scenarios is not contemplated. This is because the uncertainty of the cash flow scenarios is already reflected in the probability-adjusted cash flow.

4. **Earnout Payoff Structure**. In addition to the diversifiable and nondiversifiable risk related to the underlying metrics of an earnout, there is sometimes additional risk associated with the earnout payoff structure.

   There is nondiversifiable risk associated with the financial metrics of an earnout. Some earnouts with financial metrics may have complex payoff structures in that they incorporate caps, thresholds, or tiered payoffs. In cases of earnouts with complex payoff structures, the payoff structure is nonlinear. As a result, there is additional risk associated with the payoff structure.

   This additional risk arises from the fact that the payoff structure does not correlate with the underlying metric at all levels of the metric. As a result, the probability of achieving the various payoff structure components should be contemplated in addition to the risk associated with the underlying metric.

5. **Adjustments for Risk-Neutrality**. As discussed, the various risks associated with the earnout contribute to the estimation of the present value discount rate.

   Consider the estimation of the present value discount rate for an earnout with (1) nondiversifiable risk arising from an underlying financial metric and (2) a complex, nonlinear payoff structure.

   In this scenario, the present value discount rate should reflect (1) the counterparty credit risk, (2) the risk-free rate, and (3) a risk premium for the nondiversifiable risk of the underlying metric.

   An additional risk factor for the nonlinearity of the payoff structure must also be considered. This is what is referred to in the section above as the risk associated with the payoff structure.

   As mentioned in the Advisory, adjusting the present value discount rate for risks associated with nonlinear payoff structures can conclude inaccurate, inconsistent results.

   One method used to incorporate this risk is to adjust the probability-weighted cash flow distributions to a risk-neutral basis. In adjusting the cash flow to a risk-neutral basis, the nondiversifiable risk component of the cash flow is effectively removed.

   An adjusted present value discount rate—also reflecting the removal of the nondiversifiable risk component—is then applied to the cash flow distribution.

Fair Value Measurement Methods

In the fair value measurement of assets or liabilities, and with respect to ASC Topic 820 and the fair

value hierarchy of inputs, there are three generally accepted approaches that are typically considered in the fair value measurement of earnouts: the market approach, the cost approach, and the income approach.

Although the analyst should consider these three approaches in the valuation of assets and liabilities, certain approaches and methods may be more applicable for specific assets and liabilities.

The Advisory states that in practice, "it is typically the [income] approach [that is] used to value contingent consideration. Two income approach methods the Working Group has observed being used in practice for valuing contingent consideration are the Scenario Based Method . . . and the Option Pricing Method."

The following sections discuss the three valuation approaches in the context of the fair value measurement of earnouts. First, the discussion considers why the market and cost approaches are typically not applicable for valuing earnouts. Second, the discussion considers the scenario-based method and the option pricing method.

The Market Approach and the Cost Approach

The market approach involves the analysis of actual transactions (or observable inputs) of the same or similar assets or liabilities. From these historical transactions, the analyst:

1. analyzes relevant financial metrics and pricing multiples of these metrics and
2. applies a selected pricing multiple to the asset or liability being valued.

In the fair value measurement of contingent consideration, the market approach is usually not a viable method. This is because contingent consideration is not typically actively traded in an established market. While other markets of similar assets or liabilities may exist, they do not represent actively traded markets and, therefore, do not provide meaningful trading data.

The cost approach is based on the understanding that market participants relate value to cost. In the cost approach, the value of an asset is derived based on the amount it would take to replace the asset.

Since there is usually no way to measure the replacement cost new of contingent consideration, the cost approach is not frequently applied for the fair value measurement of earnouts.

The Income Approach

The income approach is often applied in the fair value measurement of earnouts. This discussion considers two generally accepted income approach methods that may be applied to the fair value measurement of earnouts:

1. The scenario-based method (the "SBM")
2. The option pricing method (the "OPM")

The Scenario-Based Method

The SBM represents a relatively straightforward method for measuring the fair value of an earnout. In the SBM, the following procedures are applied to conclude a fair value indication:

1. The analyst calculates the expected payoff of the earnout. This expected payoff represents the probability-weighted mean of the set of (a) possible scenarios and (b) their respective probabilities. Of course, the analyst calculates the expected payoff for all relevant time periods.
2. The analyst applies a selected present value discount rate to the expected payoff of the earnout. This present value discount rate should reflect various factors, including (a) the counterparty credit risk, (b) a risk premium for any extra risk above the risk-free rate (which includes diversifiable and nondiversifiable risk factors), and (c) the risk-free rate.

In the SBM, the valuation assumptions are important factors in the analysis. The analyst should estimate the expected payoff based on two assumptions:

1. A range of possible outcome scenarios
2. The associated probabilities of those scenarios

When estimating the present value discount rate, which incorporates the rate of return required by market participants for the given level of risk, various assumptions are also involved.

For both the expected payoff inputs and the inputs involved in the selection of the present value discount rate, the analyst should carefully assess the quality of the information inputs used in the SBM analysis.

In the case of the projected scenarios, which are often provided by management, the analyst should scrutinize the consistency and accuracy of those scenarios. In the case of the present value discount

rate, the valuation analyst should evaluate whether the present value discount rate reflects the comprehensive risks associated with the earnout payoff to market participants.

The Advisory recommends the SBM in the case of the fair value measurement of earnouts with:

1. milestone event metrics or
2. financial metrics with linear payoffs.

In the case of earnouts with nonlinear payoff structures, the OPM may better incorporate the additional risk associated with nonlinear payoff structures.

The Option Pricing Method

In the case of nonlinear payoff structures, additional risk may be present that is not easily estimated in the SBM. In applying the SBM to earnouts with nonlinear payoff structures, additional procedures may be required to adjust the expected payoff and the present value discount rate.

However, these additional procedures still bear the possibility that they will not fully incorporate the additional risk associated with the nonlinear payoff structure.

Earnouts with complex payoff structures often represent payoffs that are similar in nature to derivative option instruments and various option strategies.

It is for these reasons that the Advisory does not recommend using the SBM in the analysis of earnouts with nonlinear payoff structures. Instead, the OPM can be relied on to provide a more meaningful fair value measurement for earnouts with nonlinear payoff structures.

In the OPM, a distribution of scenarios and their associated probabilities determine the expected payoff of the earnout. Then, a present value discount rate is estimated that includes the counterparty credit risk, the risk-free rate, and a risk premium for any extra risk above the risk-free rate (which includes diversifiable and nondiversifiable risk factors).

This present value discount rate is not applied to the expected payoff. Instead, the diversifiable and nondiversifiable risk components are separated from the present value discount rate and used to discount the entire probability distribution of payoffs to arrive at a risk-neutral probability distribution.

The expected mean of this distribution is then discounted using a present value discount rate consisting of only the risk-free rate and counterparty credit risk (as all other risk factors are neutralized).

Summary and Conclusion

In M&A transactions, the earnout is a popular mechanism that is utilized to achieve various objectives. While earnouts can seem to be a practical and straightforward method for aligning objectives and consideration in an M&A transaction, there are often intricacies that need to be contemplated.

"Earnouts with complex payoff structures often represent payoffs that are similar in nature to derivative option instruments and various option strategies."

In particular, the accounting and valuation treatment of earnouts can involve complex analysis and adherence to specific accounting standards. In the context of valuation, earnout payoff structures can be complex, the cash flow of the consideration can be unclear, and the risk to market participants can be challenging to quantify and incorporate.

Given these challenges, the reliance on the expertise of an analyst can alleviate and respond to issues related to the fair value measurement of earnouts.

Notes:

1. *Valuations in Financial Reporting Valuation Advisory 4: Valuation of Contingent Consideration* (Washington, DC: the Appraisal Foundation, February 2019).
2. ASC Topic 805, Business Combinations, ASC 805-20-25-1.
3. Ibid., ASC 805-20-25-15A.
4. Ibid., ASC 805-20-25-5.
5. Ibid., ASC 805-20-25-6.
6. Ibid., ASC 805-20-25-7.
7. Ibid., 820-10-35-40.
8. Ibid., 820-10-35-47.
9. Ibid., 820-10-35-52).
10. Valuations in Financial Reporting Valuation Advisory 4: Valuation of Contingent Consideration.
11. Ibid.

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Fair Value Measurements in Business Combinations and Bargain Purchase Transactions

John C. Kirkland, CPA, and F. Dean Driskell III, CPA

This discussion summarizes the fair value measurement guidance and financial accounting considerations in business combinations—and specifically in bargain purchase transactions. This discussion describes the principles of the acquisition accounting method as it relates to fair value measurement. And this discussion describes many of the valuation analyst considerations with regard to fair value measurements for a bargain purchase transaction.

The original version of this discussion was published in the Autumn 2018 issue of *Insights*. During our subsequent research on the subject of bargain purchase transactions, we found that such transactions continue to be rare. We performed a detailed search of publicly available financial information, and we located a few likely candidates.

Three of these transactions are described at the end of this discussion. It appears that the global pandemic may be driving a majority of these new bargain purchase transactions.

Introduction

Is the old saying true that "everyone loves a bargain"? In business combinations, buyers look for a "bargain" while sellers attempt to negotiate the highest possible price. Although true bargains exist in the marketplace, each party in a transaction is generally unwilling to consider a price that varies significantly from its individual perceived value of the transferred assets or business.

For financial accounting purposes, the business combination purchase price is compared to the estimated *fair value* of net assets acquired. According to the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 820, fair value is defined as "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."

In certain business combination transactions, the buyer may pay something greater than the fair value of the assets acquired due to synergies and a host of other reasons.

In other business combination transactions, the buyer may:

1. pay less than the estimated fair value and
2. be considered to have consummated a bargain purchase.

Bargain purchases in business combinations may require additional considerations for both financial accounting and valuation professionals.

This discussion summarizes the financial accounting, fair value measurement, and valuation analysis considerations related to business combinations involving bargain purchases.

Additionally, this discussion considers the Security and Exchange Commission ("SEC") scrutiny of fair value measurements.

Financial Accounting Considerations

The FASB ASC Topic 805 provides guidance on the financial accounting considerations for business combinations accounted for by application of the acquisition method.

To comply with U.S. generally accepted accounting principles ("GAAP"), the business combination buyer records the transaction using the acquisition method and measures the following:

1. Tangible assets and liabilities that were acquired
2. Intangible assets that were acquired
3. Amount of any noncontrolling interest in the acquired business
4. Amount of consideration paid
5. Any goodwill or gain on the transaction

Applying generally accepted valuation approaches and methods, the purchase price is allocated between:

1. identifiable tangible assets and identifiable intangible assets and
2. purchased goodwill.

However, if the fair value of the identifiable net assets exceeds the business combination purchase price, a *bargain purchase* has occurred under the rules of ASC Topic 805.

The FASB defines a bargain purchase as "a business combination where the acquisition date amounts of identifiable net assets acquired, excluding goodwill, exceed the sum of the value of consideration transferred."

The net effect of such a transaction is, essentially, negative goodwill. In the event of a bargain purchase, the purchaser is required under GAAP to recognize a gain for financial accounting purposes. The effect of this gain is an immediate increase to net income.

A reasonable person may question the frequency or volume of bargain purchases. After all, businesses along with savvy owners and boards of directors do not often willingly sell assets below fair value.

In fact, both the FASB and the International Accounting Standards Board ("IASB") consider bargain purchases to be anomalous transactions. Still, these transactions do occur on occasion.

One notable bargain purchase was the acquisition of Lehman Brothers by the U.K. bank Barclays in late 2008, resulting in a negative goodwill gain for Barclays of £2.26 billion (approximately $4.1 billion U.S.) (i.e., the £3.14 billion difference between the assets and liabilities acquired minus the acquisition cost of £874 million).[1]

There were likely hundreds of other such transactions in the aftermath of the 2008 market crash and the subsequent Great Recession. Other potential causes of bargain purchases include liquidations, distressed sales, and non-arm's-length transactions. In general, bargain purchases appear to occur at increased frequency during times of economic crisis.

As discussed in a later section, the ongoing global pandemic may lead to increased bargain purchases during 2020 and through 2021.

In addition to the previous example, we know that bargain purchase issues continue to occur. In August 2017, the SEC issued an order instituting public administrative and cease and desist proceedings against a Big 4 accounting firm and one of its partners involving, in part, bargain purchase issues.

Of the numerous alleged violations, perhaps the most relevant to the topic of bargain purchases was *failure to properly test fair value measurements and disclosures and using the work of a specialist*. The accounting firm and the audit partner were ultimately fined more than $6 million.[2]

Accounting Guidance on Business Combinations and Fair Value Measurement

GAAP requires that business combinations with an acquisition date on or after the beginning of the first annual reporting period beginning on or after December 15, 2008 (December 15, 2009, for acquisitions by not-for-profit entities), account for the transaction under ASC Topic 805.

ASC Topic 805 focuses on the following areas:

1. Provides broad definitions of business and business combinations (the FASB issued new guidance, Accounting Standards Update

["ASU"] 2017-01, *Business Combinations* (Topic 815)): *Clarifying the Definition of a Business*, in January 2017 that amends the previous definition of a business)

2. Requires the use of the acquisition method
3. Recognizes assets acquired and liabilities assumed at fair value as defined in ASC Topic 820—*Fair Value Measurement*

First, a business is defined in ASU 2017-01 as "an integrated set of activities and assets that is capable of being conducted and managed for the purpose of providing a return." A business combination is defined as "a transaction or other event in which an acquirer obtains control of one or more businesses."

Generally, GAAP identifies that greater than 50 percent of the voting shares of an entity indicates control. However, effective control may exist with a lesser percentage of ownership in certain circumstances.

Second, the acquisition method is required by ASC Topic 805. And, the acquisition method involves the following procedures:

1. Identifying the acquirer
2. Determining the acquisition date
3. Determining the consideration transferred
4. Recognizing and measuring the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree
5. Recognizing and measuring goodwill or a gain from a *bargain purchase* [emphasis added]

Third, ASC Topic 805 requires that all identifiable assets and liabilities acquired, including identifiable intangible assets, be assigned a portion of the purchase price based on their fair values. Fair value measurement emphasizes market participant assumptions and exit values.

Finally, when measuring fair value, the following issues should be considered:

1. Market participant assumptions—Buyers and sellers with *all* the following characteristics:
   a. Independent (not related parties)
   b. Knowledgeable
   c. Able to transact
   d. Willing but not compelled to transact
2. Highest and best use—Assumes the asset's utility is maximized and the use of the assets is physically possible, legally permissible, and financially feasible at the measurement date
3. Synergies—Are excluded unless feasible at the market participant level

The Financial Accounting for Business Combinations

Accountants provide a pivotal role in the analysis and financial accounting of business combinations through purchase price allocations.

The first procedure in accounting for a business combination is recognizing and measuring the identifiable assets acquired, the liabilities assumed, the consideration transferred, and any noncontrolling interest in the acquired company. The accountants generally rely on valuation analysts ("analysts") to measure fair values. ASC Topic 805 provides guidance in each of these areas.

Once the tangible assets are identified, those assets are generally valued by reference to the market approach or the income approach—unless there are insufficient data to do so. In these instances, the analyst may use the cost approach and the replacement cost new less depreciation method. Any liabilities assumed may be valued in the same manner.

The fair value measurement of intangible assets can be complex. Acquired intangible assets are accounted for separately from goodwill if the acquired intangible assets:

1. possess contractual or legal rights or
2. can be transferred from the acquired entity.

Examples of identifiable intangible assets include patents, copyrights, trademarks, customer lists, noncompete agreements, and assembled workforce.

There are several valuation methods available to measure the fair value of intangible assets. A description of these intangible asset valuation methods is beyond the scope of this discussion.

ASC Topic 805 requires that all consideration transferred and any noncontrolling interests be measured at fair value as of the acquisition date. Additionally, the fair value of any contingent consideration (i.e., earn-out provisions) is typically estimated by probability weighting outcomes via various risk simulation tools.

If at the end of the accounting process, the consideration transferred (or purchase price) is greater than the fair value of the assets and liabilities, the difference is recorded as goodwill.

Alternatively, if the fair value of the assets and liabilities is greater than the consideration transferred (or purchase price), a bargain purchase exists with immediate impact to the buyer's income statement (no such burden accrues to the seller).

Acquirers often engage an analyst to develop the fair value measurements.

Fair Value Measurement Considerations for Business Combinations

The analyst's role is important in the fair value measurement for purchase price allocation purposes. As with most purchase price allocations, the first procedure the analyst generally takes in assessing a bargain purchase transaction is to identify all assets, liabilities, and consideration transferred.

If early value estimates indicate that a bargain purchase may exist, the analyst may notify the accountant and other stakeholders—as this indication may impact the buyer's income statement.

Assets are typically valued using the cost approach, the market approach, or the income approach. These generally accepted property valuation approaches are also used to value the liabilities and the consideration transferred. The analyst typically considers all three generally accepted valuation approaches and provide explanations for the inclusion or exclusion of each approach.

The analyst should document the rationale for the valuation approaches both considered and employed in arriving at a value estimate. This documentation provides context for the parties involved in the bargain purchase transaction.

Given the nature of bargain purchase transactions, it can often be difficult to implement a market approach. This fact can lead to more reliance on the income approach or the cost approach.

The income approach generates an indication of the fair value of an asset based on the cash flow that an asset is projected to generate over its useful economic life ("UEL"). The income approach is often applied through the discounted cash flow ("DCF") method.

A fair value measurement using the DCF method is based on the present value of estimated future cash flow over the expected UEL of the asset (or business) discounted at a rate of return that incorporates the relative risk of realizing that cash flow as well as the time value of money.

The DCF method is often applied in estimating the business enterprise value of the acquired company. In the event of a bargain purchase, the enterprise value exceeds the price paid for the business. This relationship gives rise to important considerations for the analyst.

One such consideration is the analysis and reconciliation of the weighted average cost of capital ("WACC"), weighted average return on assets ("WARA"), and the internal rate of return ("IRR").

The WACC is calculated as the required rate of return on the investment in the acquired company by a market participant. It is generally comprised of (1) an after-tax required rate of return on equity and (2) an after-tax rate of return on debt.

The WACC is often an important component in applying the DCF method, as it is typically used to determine the present value of expected future cash flow.

It may be necessary to estimate the WACC before establishing the stratification of the rates of return for the acquired assets. Determining the WARA allows the analyst to compare this figure to the WACC and assess the reasonableness of the required return on assets and the return required by suppliers of capital.

The WARA typically results in a similar overall cost of capital as the WACC. This is because the WACC can be viewed as a weighted average of the required rates of return for the individual assets of the acquired company. Essentially, the operations of the acquired company are considered fundamentally equivalent to the combined assets of the acquired company.

In a purchase price allocation for a transaction occurring at or above fair value, it is generally expected that the IRR (based on projections used to value the transaction and the overall purchase price), the WACC, and the WARA are closely aligned.

In the case of a bargain purchase transaction, the IRR typically exceeds the WACC, and the WACC typically exceeds the WARA.

The misalignment between the three measures can potentially be attributed to the absence of goodwill that is often generated under normal market conditions. Goodwill generally has a higher required rate of return than the other acquired assets, which tends to increase the WARA.

For financial accounting purposes, goodwill is generally a residual amount and the rate of return is calculated as an implied rate of return.

Within the context of WARA, the rate of return on goodwill can be estimated by reconciling the

weighted average rates of return of all the identified assets to the WACC of the acquired company.

It is important for the analyst to understand the interrelatedness of the IRR, WACC, and WARA in the context of a bargain purchase transaction. The analyst should be prepared to discuss these three measures and what contributed to the differences between them.

This may be an area of concern for analysts when reconciling the fair value of the bargain purchase transaction, as auditors generally require an explanation of the differences between the three measures.[3]

It is also important for the analyst to carefully consider the environment in which the transaction took place, as the ramifications of improperly classifying a transaction as a bargain purchase can be substantial.

Typically, certain underlying business and economic conditions are present in bargain purchase transactions. These conditions may include signs of financial distress of the target company, shortcomings in the bidding process, and desired divestiture of noncore business segments of the target firm.[4]

The analyst should gain an understanding of why the transaction was consummated below the estimated fair value as part of his or her due diligence. This understanding provides the analyst with important context surrounding how and why the transaction is not occurring at the estimated fair value.

Exhibit 1
Illustrative Business Combination Acquisition Accounting
Transaction Price Indicates Positive Goodwill Amount

	Fair Value
Tangible Assets and Liabilities:	
Cash	$100,000
Net Working Capital	150,000
Tangible Personal Property	400,000
Real Property	300,000
	$950,000
Liabilities Assumed	(100,000)
Identifiable Intangible Assets:	
Patents	125,000
Trademarks	75,000
Fair Value of Assets and Liabilities	1,050,000
Goodwill	150,000
Consideration Transferred (purchase price)	$1,200,000

Purchase Price Allocation Examples

Business combinations range from simple to complex, but most transactions contain similar asset structures. In the example presented in Exhibit 1, the acquiring company transferred consideration of $1.2 million for net assets of $1.05 million resulting in $150,000 recorded as goodwill.

Alternatively, the example presented in Exhibit 2 demonstrates a combination where the consideration paid (lowered to $1 million) is less than the estimated fair value of the net assets received. This situation is often referred to as negative goodwill—or a bargain purchase.

In Exhibit 2, the acquiring company will recognize an immediate gain on its income statement of $50,000. The results of a bargain purchase will have financial accounting implications including potential adjustments to total assets, shareholders' equity, taxable income, and net income.

Securities and Exchange Commission Perspective on Bargain Purchase Transactions

According to the SEC Division of Enforcement, the total number of enforcement actions decreased during fiscal year 2020.[5] Historically, even during times of decreased enforcement, there is evidence that bargain purchases (and other asset valuations) are increasingly scrutinized.[6]

While the SEC does not provide a basis or strategy for its enforcement actions, they may consider bargain purchase transactions as red flags for balance sheet overstatements.

Therefore, buyers (along with accountants and analysts) should scrutinize bargain purchase transactions to avoid complications with the SEC or other financial reporting deficiencies.

In August 2017, the SEC issued an order instituting public administrative and cease and desist proceedings against a national audit firm and one of its partners along with

the relevant entity Miller Energy Resources, Inc. ("Miller").[7]

Miller is a Tennessee corporation located in Knoxville, Tennessee. Specifically, the SEC action noted the following violations:

1. Rule 102E and Section 4C of the Exchange Act
2. Failure to Properly Plan the Audit (AU 331 and 332)
3. Failure to Exercise Due Professional Care and Professional Skepticism (AU 230, 316 and 722)
4. Failure to Properly Test Fair Value Measurements and Disclosures and Using the Work of a Specialist (AU 328, 342 and 336)
5. Failure to Obtain Sufficient Competent Evidential Matter (AU 315 and 326)
6. Failure to Supervise the Engagement Team Properly (AU 311)
7. Failure to Prepare Required Documentation (AS 3)
8. Failure to Issue an Accurate Audit Report (AU 508)
9. Failure to Perform Adequate Personnel Management (QC 20 and 40)
10. Failure Related to Adequate Competency and Proficiency (AU 210 and 161, QC 20)

In 2010, Miller Energy acquired oil and gas interests located in Alaska initially valued at $4.5 million. Miller subsequently inflated the value of the assets to $480 million in its 2010 financial statements, resulting in a bargain purchase gain of $277 million.

In March 2016, Miller and its subsidiaries filed a voluntary petition for Chapter 11 reorganization and cancelled and extinguished all common and preferred shares.

Prior to the Miller acquisition of the Alaska assets, the former owners tried and failed to sell the oil and gas interests in the open market. These efforts began in late 2008 and ended in mid-2009. Additional attempts to sell the assets via bankruptcy auction also failed. Ultimately, the assets were abandoned.

During 2009, the abandonment was rescinded, and Miller acquired the oil and gas interests for $2.25 million plus the assumption of certain liabilities.

Exhibit 2
Illustrative Business Combination Acquisition Accounting Transaction Price Indicates Negative Goodwill Amount

	Fair Value
Tangible Assets and Liabilities:	
Cash	$100,000
Net Working Capital	150,000
Tangible Personal Property	400,000
Real Property	300,000
	$950,000
Liabilities Assumed	(100,000)
Identifiable Intangible Assets:	
Patents	125,000
Trademarks	75,000
Fair Value of Assets and Liabilities	1,050,000
Goodwill (bargain purchase element)	(50,000)
Consideration Transferred (purchase price)	$1,000,000

Miller disclosed the value of the assets as $480 million ($368 million for properties and $110 million for fixed assets) and recorded a gain of $277 million in its first SEC Form 10-Q filing following the purchase. At that point in time, the Alaska assets were greater than 95 percent of Miller's assets.

The SEC determined the $368 million value was based on reserve reports that were not suitable for fair value measurement purposes and the $110 million was duplicative. Because of the incorrect fair

value measurements, it was determined that Miller materially misstated the fair value of its assets.

It is evident from the Miller case that the SEC expected more scrutiny from all the parties involved in the transaction (accountants, analysts, and company management). It is also evident that while large bargain purchase transactions are possible, a gain of $277 million on a $4.5 million purchase (more than 61 times) is highly questionable and likely to receive additional scrutiny from the SEC.

Recent Bargain Purchase Transactions

It is likely that several bargain purchases occurred during 2020 as the world continued to grapple with the negative economic effects of the COVID-19 pandemic. Increased economic stress related to the global pandemic may have been a primary cause of several bargain purchases that occurred in the past year.

We identified a number of likely bargain purchases transactions that occurred during 2020. Three of these transactions are discussed below.

Schmitt Industries Acquires Ample Hills Creamery – July 2020

Schmitt Industries ("Schmitt") was founded in 1984 and is a manufacturing company that produces a variety of products, including laser sensors (under the Acuity® brand) and tank monitoring systems (under the Xact® brand).

Schmitt acquired Ample Hills Creamery on July 9, 2020, after placing a bid as part of bankruptcy proceedings in the United States Bankruptcy Court for the Eastern District of New York.

Ample Hills Creamery is based in Brooklyn, New York, and produces ice cream that is sold through its retail stores. Ample Hills Creamery took on a considerable amount of debt in order to open an ice cream manufacturing facility in Brooklyn.

Additionally, Ample Hills Creamery experienced operational difficulties due to the local coronavirus restrictions in place during the first and second quarter of 2020. Ample Hills Creamery filed for bankruptcy in spring 2020 and was purchased by Schmitt.

Schmitt provided total consideration of $1.7 million and acquired identifiable net assets of $2.9 million. Thus, Schmitt reported a gain on bargain purchase of $1.2 million.[8]

Live Ventures, Inc., Acquires Precision Industries, Inc. – July 2020

Live Ventures, Inc. ("Live Ventures"), is a diversified holding company with interests in the flooring manufacturing, steel manufacturing, and retail industries. Live Ventures was founded in 1968 and is based in Las Vegas, Nevada.

Live Ventures acquired Precision Marshall, Inc. ("Precision Marshall"), on July 14, 2020. Precision Marshall is a steel manufacturer located in Pennsylvania.

Live Ventures contributed total consideration of $37.8 million and acquired identifiable net assets of $39.3 million. Live Ventures reported a bargain purchase gain of $1.5 million.[9]

StoneX Group, Inc., Acquires Gain Capital Holdings, Inc. – July 2020

StoneX Group, Inc. ("StoneX Group"), was founded in 1924 and operates as a global financial services network that provides various investment and brokerage services to retail and institutional investors across the world.

In February 2020, StoneX Group entered into a merger

agreement to acquire Gain Capital Holdings, Inc. ("GCH"). GCH is a global provider of trading services to institutional and retail investors. GCH specializes in over-the-counter products and exchange-traded futures.

The merger between StoneX Group and GCH closed on July 30, 2020. At the time of the acquisition, StoneX Group reported that GCH's identifiable net assets acquired were $318.4 million. StoneX Group provided total consideration of $236.6 million and, as a result, recorded a gain on bargain purchase of $81.8 million.

The following quote from the StoneX Group 2020 annual report discusses the potential factors that contributed to the company recognizing a bargain purchase gain from the acquisition of GCH:

> The company believes that the transaction resulted in a bargain purchase gain primarily due to the significant market volatility experienced during the first calendar quarter of 2020, primarily as a result of the COVID-19 pandemic. The market volatility experienced during 2020 through the Gain acquisition date increased significantly compared to corresponding historical periods. This resulted in Gain generating windfall profits and a corresponding increase in net tangible book value.[10]

Summary and Conclusion

Although historically a rare occurrence, business combinations may, in certain situations, result in a bargain purchase. Such transactions give rise to important considerations for the parties involved.

The buyer should be aware of the requirements and the process for identifying assets, liabilities, and consideration transferred. The buyer should also understand the procedures employed by the analyst in measuring the fair value of the assets, liabilities, and consideration transferred.

The analyst should ensure that appropriate methods are employed in the fair value measurement analysis. The analyst should be prepared to discuss and reconcile any potential differences between the WARA, WACC, and IRR.

One concern of the FASB and the SEC is whether the assets and liabilities acquired are appropriately reported at fair value. Bargain purchase transactions may be a red flag for potential asset overstatements.

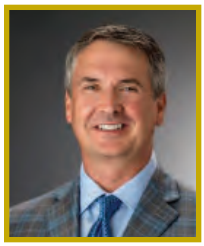
Finally, failure to understand the implications of a bargain purchase transaction can lead to several pitfalls, including inaccurate financial accounting as well as legal action from the SEC.

Notes:

1. Juan Ramirez, *Handbook of Basel III Capital: Enhancing Capital in Practice* (Hoboken, NJ: John Wiley & Sons, 2017), 86.
2. SEC Administrative Proceeding File Number 3-18110.
3. "Application of the Mandatory Performance Framework for the Certified in Entity and Intangible Valuations Credential" (Corporate and Intangibles Valuation Organization, LLC, 2017), 25.

"[F]ailure to understand the implications of a bargain purchase transaction can lead to several pitfalls, including inaccurate financial accounting as well as legal action from the SEC."

4. Eugene E. Comiskey and Charles W. Mulford, "Changes in Accounting for Negative Goodwill: New Insights into Bargain Purchase Transactions. Why Sell for Less Than Fair Value?" whitepaper, http://hdl.handle.net/1853/39313 (April 2011), 23.
5. SEC Division of Enforcement, 2020 Annual Report (November 2, 2020). There seems to be general agreement of the legal and corporate community that SEC enforcement actions should significantly increase under the new executive branch.
6. David Woodcock, Joan E. McKown, and Henry Klehm III, "SEC Enforcement in Financial Reporting and Disclosure—2017 Year-End Update," Harvard Law School Forum on Corporate Governance, https://corpgov.law.harvard.edu/2018/02/19/sec-enforcement-in-financial-reporting-and-disclosure-2017-year-end-update/ (January 2018).
7. SEC Administrative Proceeding File Number 3-18110 (2017).
8. As of the date of publication, Schmitt has not finalized the purchase price allocation as part of the acquisition of Ample Hills Creamery. As such, the accounting for the transaction (including the gain on bargain purchase) may change.
9. Live Ventures 2020 10-k, p. f-19.
10. StoneX Group Annual Report, 2020, p. 103.



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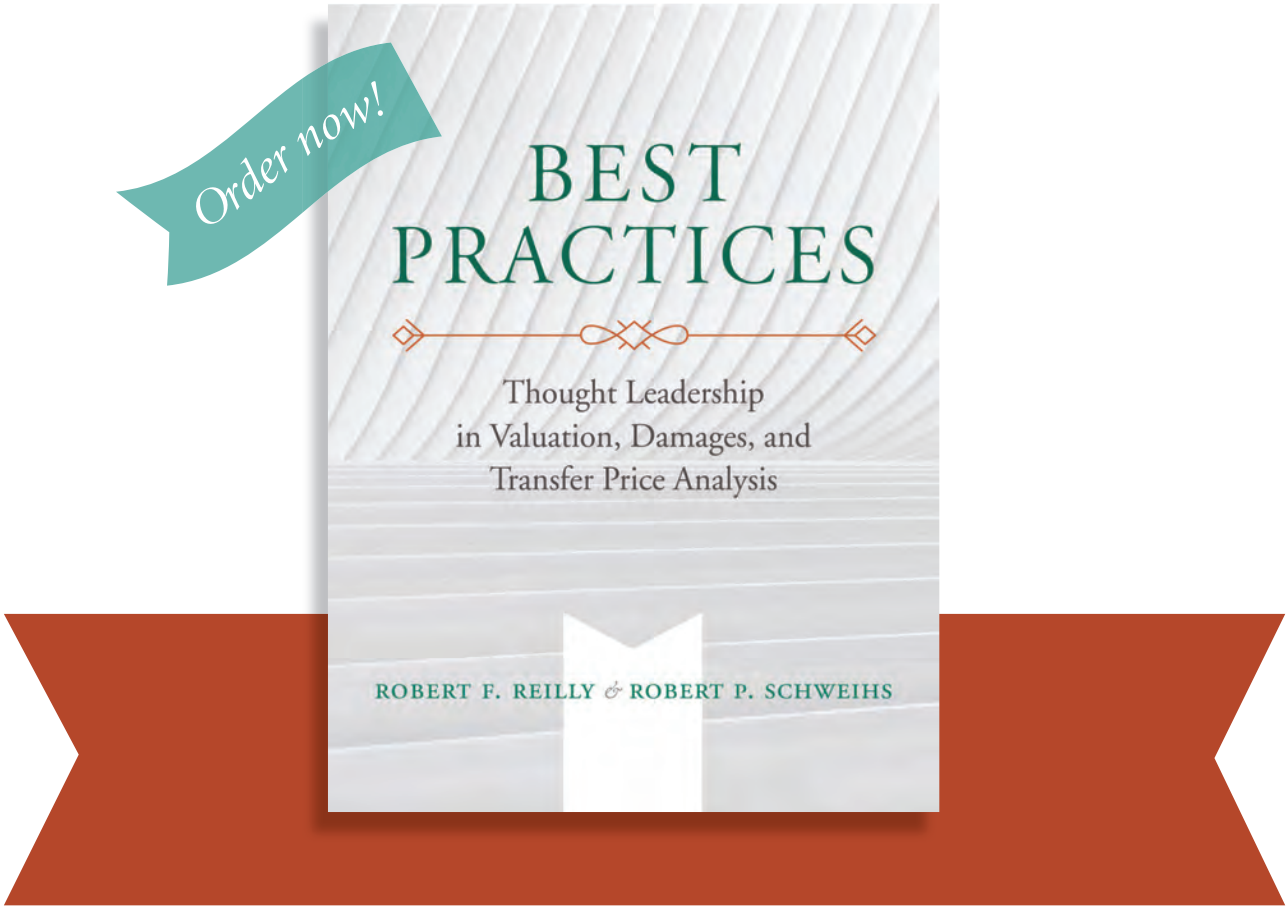

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With a detailed index, this book provides practical guidance to lawyers, valuation practitioners, forensic analysts, and other professionals involved in the practice of valuation, damages, or transfer price analysis.

Published by Valuation Products and Services, the price of this book is $199 (+ shipping & handling). To order the book, visit: **www.willamette.com/best_practices.html**

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Understanding a Business Combination Transaction versus an Asset Purchase Transaction

Kevin M. Zanni

Valuation analysts ("analysts") who provide specialist services related to business combination financial accounting should be aware of certain basic processes and procedures. Such analysts need to review and understand recent professional guidance introduced by the Financial Accounting Standards Board ("FASB"). The FASB regularly issues updates and modifications to U.S. generally accepted accounting principles ("GAAP"). The FASB promulgates these GAAP changes through the issuance of Accounting Standards Updates ("ASUs"). These ASUs affect fair value measurements for financial accounting purposes. Certain ASUs are more significant than others with regard to fair value measurements. One of the more significant and recent ASUs is ASU 2017-01, which involves the definition of a transaction as either a business combination or an asset purchase. Analysts should be aware that there are important differences between the financial accounting treatment and fair value measurement of a business combination transaction versus that of an asset purchase transaction.

Introduction

The change to the fair value accounting and reporting of certain transactions represents a paradigm shift from historical-cost-based accounting to a more relevant and current measurement of accounting value. Fair value accounting is widely viewed as an improvement to the cost-based form of accounting.

Under historical-cost-based accounting, the initial price paid by the company during the purchase of the asset or incurrence of the liability is the most relevant pricing indication. The recorded value on a historical-cost-based balance sheet is either the original purchase price or a value reduced by obsolescence (considering functional, technical, and/or economic) depreciation or depletion.

Historical-cost-based accounting is easy to understand because it is based on a fixed price that is a known amount; specifically, the cost typically represents the actual price that a company paid. Historical-cost-based accounting is generally easier to follow since it is based on fixed and certain inputs.

To investors, fair value accounting provides a change to how financial information is viewed and consumed. The shift to fair value measurement provides the accounting basis of value for reporting both financial and nonfinancial assets and liabilities.

There are many relevant Financial Accounting Standards Board ("FASB") Accounting Standard Codification ("ASC") topics that require analysts to provide fair value measurements. Fair value measurement involves the process of determining the fair value of financial and nonfinancial assets and liabilities when fair value accounting is required or permitted.

Analysts are often engaged by reporting companies to develop fair value measurements of intangible assets, stock compensation, goodwill, and so forth.

Exhibit 1 presents a few of the FASB ASC topics for which analysts are often engaged to provide fair value measurement services during the course of the financial accounting.

As presented in Exhibit 1, there are numerous ASC topics that involve fair value measurements. The majority of ASC topics are based on guidance provided by ASC Topic 820, Fair Value Measurement.

ASC Topic 820 provides authoritative guidance for measuring fair value of assets liabilities and equity interests. For example, based on the ASC Topic 820 fair value guidance, analysts often prepare ASC Topic 805 business combination analyses and ASC Topic 350 intangible asset and goodwill impairment testing analyses.

The purposes of this discussion are twofold. First, this discussion summarizes the FASB guidance and the general process by which fair value guidance changes generally accepted accounting principles ("GAAP"). Second, this discussion provides commentary about ASC Topic 805 business combinations, and, more specifically, considers recent changes to ASC Topic 805.

In the past few years, one of the most significant Accounting Standards Updates ("ASUs") involving ASC Topic 805 relates to the definition of a business for the purposes of treating a business purchase as either:

1. a business combination or
2. an asset purchase.

The updated ASU guidance has made the treatment of a business purchase more restrictive as to how the purchase is recorded. There are several accounting treatment differences between:

1. a business combination purchase and
2. an asset purchase.

An analyst working on an ASC Topic 805 assignment should be aware of the differences between the financial accounting treatment (1) of a business combination purchase and (2) of an asset purchase.

Fair Value Measurement Guidance

In the United States, GAAP represent a common set of accounting principles. The GAAP standards and

Exhibit 1
FASB Accounting Standard Codification Topics That Involve Fair Value Measurements

ASC Topic 350, Intangibles—Goodwill and Other

ASC Topic 360, Property, Plant, and Equipment (specifically long-lived asset impairment)

ASC Topic 606, Revenue from Contracts with Customers

ASC Topic 715, Compensation—Retirement Benefits

ASC Topic 718, Compensation—Stock Compensation

ASC Topic 805, Business Combinations

ASC Topic 820, Fair Value Measurement

ASC Topic 825, Financial Instruments

ASC Topic 860, Transfer and Servicing

ASC Topic 946, Financial Services—Investment Companies

ASC Topic 965, Plan Accounting (This ASC Topic is relevant for actuaries as it relates to pensions; however, knowledge that this ASC Topic exists and its purpose may be important for valuation professionals.)

procedures are followed by companies for the reporting of financial information. GAAP is a set of standards (developed primarily by FASB) designed to improve transparency in financial statements.

The intent of GAAP is to promote and ensure a level of consistency in financial statements so that users may understand, analyze, and compare financial information.

Effective for periods ending after September 15, 2009, the FASB ASCs became the source of authoritative GAAP to be applied to nongovernmental entities. ASC Topic 105, established the Codification as the sole source of GAAP in the United States for nongovernmental entities. Rules and interpretive releases of the Securities and Exchange Commission ("SEC") are also sources of authoritative GAAP for SEC registrants.

In other words, currently all other accounting literature is considered nonauthoritative.

In addition to the authoritative GAAP established in ASC Topic 105, nonauthoritative GAAP is also defined. Accounting and financial reporting practices which are not included in the Codification are considered to be nonauthoritative.

Nonauthoritative guidance includes ASUs, industry accounting practices, American Institute of Certified Public Accountants issue papers, and professional association or regulatory agency pronouncements.

For ASU guidance, each ASU explains how FASB has changed GAAP by amendment of the codifications. In isolation, an ASU is not authoritative; rather, the ASU communicates how the respective ASC is being amended. It also provides other information to help a user of GAAP understand how and why GAAP is changing and when the changes will be effective.

GAAP is based on FASB pronouncements and statements, SEC regulations for public companies, and accounting practices developed by industries and other recognized bodies over time.

The application and adherence to GAAP standards do not guarantee the financial statements will be free of errors, omissions, or misstatements.

FASB Board

The FASB facilitates change through the service of its seven full-time members (the "Board"). The FASB members are appointed for five-year terms. FASB members are eligible for an additional five-year term. Board member terms expire on June 30 at the end of their respective five-year term period.

The FASB standards-setting process for GAAP updates varies, but it generally follows the following procedures:[1]

1. The FASB identifies financial accounting issues based on requests/recommendations from stakeholders or through other means.
2. The FASB decides whether to add a project to the technical agenda based on staff-prepared analysis of the issues.
3. The FASB deliberates at one or more public meetings the various reporting issues identified and analyzed by the staff.
4. The FASB issues an exposure draft to solicit broad stakeholder input.
5. The FASB holds a public roundtable meeting on the exposure draft.
6. The staff analyzes comment letters, public roundtable discussion, and all other information obtained through due process activities. The Board redeliberates the proposed provisions.
7. The FASB issues an ASU describing amendments to the relevant ASC.

To assist it in governing and setting policy, FASB has several advisory groups. According to the FASB website, the primary role of advisory group members is to share views and experiences with the FASB on matters related to projects on the Board's agenda, possible new agenda items, practice and implementation of new standards, and strategic and other matters.

Information provided by advisory group members is communicated to the Board in a variety of ways, including public advisory meetings and comment letters.[2]

FASB advisory groups include the (1) financial accounting standards advisory council, (2) investor advisory committee, (3) not-for-profit advisory committee, and (4) small business advisory committee.

Other FASB groups include the Private Company Council and the Emerging Issues Task Force.

Overview of Business Combinations

In a business combination, it is the responsibility of company management to identify the tangible assets and intangible assets subject to the analysis. However, accountants provide an important role in the analysis and financial accounting of business combinations through purchase price allocations.

The first procedure in accounting for a business combination is recognizing and measuring the identifiable assets acquired, the liabilities assumed, the consideration transferred, and any noncontrolling interest in the acquired company. The accountants generally rely on independent analysts to measure the fair values of acquired assets and liabilities.

ASC Topic 805 provides guidance in each of these areas.

ASC Topic 805 provides U.S. GAAP guidance related to business combinations. ASC Topic 805 provides GAAP guidance related to the accounting for—and the reporting of—transactions that represent a business combination that should be recorded using the acquisition method of accounting.

The following list provides ASC Topic 805 subtopic categories:

1. 805-10 Overall
2. 805-20 Identifiable Assets and Liabilities, and Any Noncontrolling Interest
3. 805-30 Goodwill or Gain from Bargain Purchase, including Consideration Transferred
4. 805-40 Reverse Acquisitions
5. 805-50 Related Issues
6. 805-740 Income Taxes

Each subtopic includes multiple subsections. The subtopics are subject to ongoing FASB review and possible amendment.

The requirements for how the acquirer in a business combination accomplishes 805-10-05-01 include the following financial accounting objectives:

1. Recognizing and measuring (a) the identifiable intangible assets acquired, (b) the liabilities assumed, and (c) any noncontrolling interest in the acquiree entity
2. Recognizing and measuring either (a) the goodwill acquired in the business combination or (b) any gain from a bargain purchase in the business combination
3. Determining what information to disclose to allow its financial statement users to evaluate the nature of—and the financial effect of—the business combination

"[A]ccountants provide an important role in the analysis and financial accounting of business combinations through purchase price allocations."

The acquisition method of accounting is described in ASC Topic 805-10-05-4. A business combination is defined in ASC Topic 805-10-20 as "A transaction or other event in which an acquirer obtains control of one or more businesses. Transactions sometimes referred to as true mergers or mergers of equals are also business combinations."

To comply with U.S. GAAP, the business combination buyer will record and measure:

1. tangible assets and liabilities that were acquired and
2. intangible assets that were acquired.

ASC Topic 805 Intangible Asset Considerations

In an ASC Topic 805 assignment, the analysis of tangible assets is relatively straightforward. Typically, management can easily identify the tangible assets and there is likely a market value indication for the subject tangible asset.

Specialty property appraisers are sometimes used to provide a tangible asset fair value measurement for certain tangible assets. For example, a tangible property appraiser may be retained to provide the fair value measurement of pieces of large industrial machinery.

For intangible assets, the identification and analysis of intangible assets often requires judgment. That is, judgment is required from management to appropriately identify the subject intangible assets. Judgment is also required from the analyst during the fair value measurement of intangible assets.

For acquisition accounting purposes, an intangible asset is considered to be identifiable if it meets either of the following two ASC Topic 805-20-55-2 criteria:

- The intangible asset is separable, that is, capable of being separated or divided from the entity that holds it and sold, transferred,

licensed, rented, or exchanged, either individually or together with a related contract, identifiable asset, or liability, regardless of whether the acquirer intends to do so.

- The intangible asset arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the acquiree or from other rights and obligations of the acquiree.

Assuming an identified asset meets the ASC Topic 805-20-55-2 criteria, there are five common types of intangible asset categories to consider in an ASC-Topic-805-type analysis.

The following list provides the ASC Topic 805-20-55-13 categories of identifiable intangible assets:

- Marketing-related intangible assets (for example: trademarks, service marks, trade names, and certification marks)
- Customer-related intangible assets (for example: customer lists, customer contracts and related customer relationships, order or production backlogs)
- Artistic intangible assets (for example: plays, operas, ballets, books, magazines, literary works, musical works, photographs, motion pictures, music videos, and television videos)
- Contract-related intangible assets (for example: license, royalty, standstill agreements, advertising contracts, lease agreements, construction permits, construction contracts, broadcast rights, franchise rights, operating rights, use rights, and employment contracts)
- Technology-related intangible assets (for example: patented or copyright software, mask works, unpatented technology, databases, trade secrets)

Is the Transaction a Business Combination or an Asset Sale?

Under ASC Topic 805, a business combination occurs when an entity obtains control of a "business." The definition of a business under ASC Topic 805 is somewhat broad, which has resulted in many transactions qualifying as a business combination.

The determination of whether the acquired activities and assets constitute a business is important. This is because the accounting for a business combination differs significantly from that of an asset acquisition.

Because significant judgments are required to conclude whether an acquired set of activities and assets is a business, companies should carefully evaluate their specific facts and circumstances when applying the guidance in ASC Topic 805.

To assist in the determination of either a business combination or an asset sale, FASB provided updated guidance through a January 2017 ASU. FASB issued ASU 2017-01 to provide certain clarity regarding how ASC Topic 805-10-55-4 defines a business.

This ASU update was issued in response to feedback from stakeholders that the definition of a business was applied too broadly, causing many transactions to be recorded as business combinations that may have been more appropriately classified as asset acquisitions.

The amendments provided by ASU 2017-01 resulted in the following changes to ASC Topic 805-10-55-4:

- Single or similar asset threshold (if *substantially all* of the fair value of the gross assets is concentrated in a single asset or group of similar assets, the set is not considered a business).
- To be considered a business, a set should include, at a minimum, an input and a process (both are required to significantly contribute to the ability to create an output).
- Elimination of the market participant determination regarding any missing elements of a business.
- Outputs are focused on revenue rather than the previous inclusion of "other economic benefits."
- Based on the ASU 2017-01 guidance, the FASB maintains inputs, processes, and outputs as the main elements of a business. However, it removes considerations that complicated the prior definition and identifies new considerations that have seemingly less ambiguity.

The ASU 2017-01 guidance requires an entity to first evaluate whether substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or a group of similar identifiable assets. If that threshold is met, the set of assets and activities is not a business. If it is not met, the entity evaluates whether the set meets the definition of a business.

The updated definition requires a business to include at least one substantive process and narrows the definition of outputs by more closely aligning it with how outputs are described in the new revenue recognition guidance.

Under ASU 2017-01 guidance, the market participant exception was removed. In addition, updated guidance indicates that while not all inputs or processes that a seller uses to operate the business are necessary, the set should minimally include an input and a substantive process.

Together, the set input and process should significantly contribute to the ability to create output in order to be classified as a business.

Figure 1 provides a general flowchart on how to view the business purchase under the updated guidance.

Based on ASC Topic 805-10-55-5(a-e), there are many factors to consider in a business purchase—namely, whether the purchase is either:

1. a business combination or
2. an asset purchase.

As can be observed in Figure 1, the updated guidance provides that not all inputs or processes that a seller uses to operate the business are necessary. However, to be classified as a business, the set must minimally include an input and a substantive process that together significantly contributes to the ability to create output.

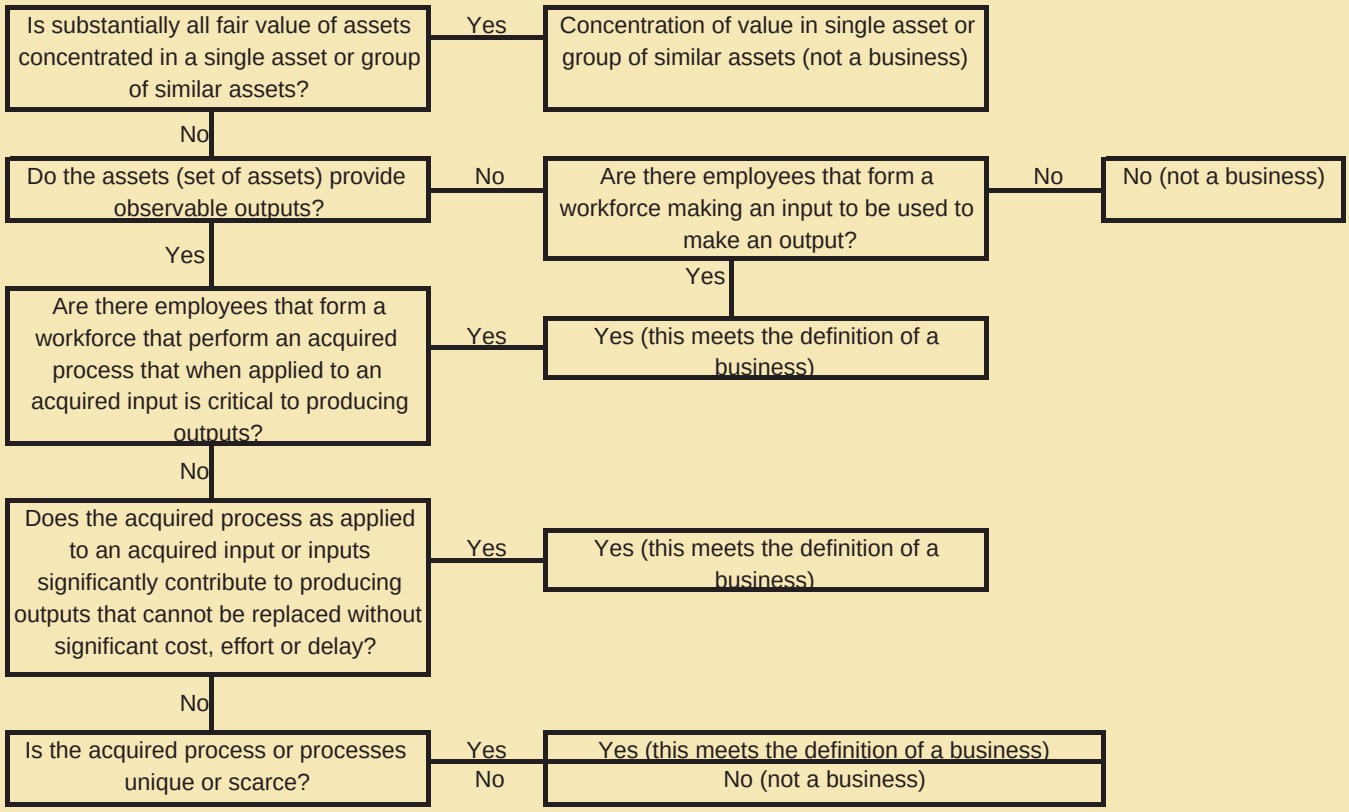
Also in ASU 2017-01, FASB changed the definition of output to be the result of inputs and processes to those inputs that provide goods or services to customers, investment income (such as dividends or interest), or other revenue.

Primary Differences between a Business Combination and an Asset Purchase

The updated definition of a business does not change the acquisition method of accounting for business combinations or the accounting for asset acquisitions outlined in ASC Topic 805-50.

However, given the narrower definition of a business outlined in ASU 2017-01, asset acquisitions

Figure 1
Flow Chart: Business Combination or Asset Purchase Considerations Based on ASC Topic 805-10-5A-5E



have become more frequent, particularly in certain types of industries including life science, real estate, and asset management industries.

Based on the recognized accounting differences between the acquisition of an asset and the acquisition of a business, it may be preferable for an acquirer to desire one accounting treatment over the other.

Exhibit 2 presents a comparison (from an accounting perspective) of certain differences between the acquisition of a business and the acquisition of an asset.

As presented in Exhibit 2, there are many differences in the financial accounting treatment for (1) a business combination and (2) an asset acquisition.

One difference is the treatment of transaction costs—in a business combination the transaction costs are expensed as incurred whereas in an asset acquisition, the transaction costs are capitalized as a component of the acquired assets.

Other differences that are noteworthy involve the treatment of goodwill and the recognition of a bargain purchase.

To the extent that the purchase price plus the fair value of any noncontrolling interest in the acquiree exceeds the fair value of the tangible and intangible assets acquired, net of assumed liabilities, the excess price is recognized as goodwill (ASC Topic 805-30-30-1) in a business combination.

In an asset acquisition, goodwill is not recognized. Instead, the cost of the group of assets (i.e., the purchase price) is allocated to the individual assets acquired or liabilities assumed based on relative fair value (ASC Topic 805-50-30-3).

Because an assembled workforce is not an identifiable asset in business combinations, it is included into goodwill (ASC Topic 805-20-55-6). However, in an asset acquisition, intangible assets may meet the intangible asset recognition criteria in FASB Concepts Statement No. 5, *Recognition and Measurement in Financial Statements of Business Enterprises*, without meeting the contractual-legal criterion or the separability standard.

Because of the relatively less strict recognition criteria, an assembled workforce may be recognized as an intangible asset in asset acquisitions.

If the fair value of the net assets acquired and liabilities assumed exceeds the total purchase price of the transaction in a business combination, then the resulting bargain purchase price gain will be recognized in earnings on the acquisition date, as discussed in ASC Topic 805-30-25-2.

For an asset acquisition, the bargain purchase price is allocated to the individual assets acquired or liabilities assumed based on relative fair value.

Summary of Recent ASC Topic 805 Guidance

FASB continues to refine fair value accounting as it (1) seeks feedback from stakeholders and (2) provides transparency and consistency in the reporting of financial statements.

The FASB follows seven general procedures to establish new guidance. This process can lead to new ASUs and further fair-value-related guidance.

ASU amendments affect the valuation considerations for both the entities involved and the consultants providing the necessary valuation services. It is important for analysts to be aware of GAAP and the ongoing ASUs in order to appropriately recognize, understand, and implement the potential impact on valuation engagements, including the potential scope of such assignments.

By now, analysts should be aware of ASU 2017-01 and its implications in determining what an entity has acquired in a business purchase. Determining whether an entity has acquired a business or an asset or a group of assets is important. That is because the fair value measurement procedures for a business combination differ significantly from procedures for an asset acquisition.

The new definition of a business in ASC Topic 805 has resulted in additional transactions being accounted for as an asset acquisition rather than as a business combinations. A transaction may be considered an asset acquisition under ASC Topic 805, and an acquisition of a business for purposes of SEC reporting.

Notes:

1. www.fasb.org, About Us/Standard-Setting Process.
2. www.fasb.org/facts

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Exhibit 2
Comparison of Certain Differences between A Business Combination Acquisition and an Asset Acquisition

Accounting Issue	Business Combination Transaction	Asset Acquisition Transaction
Transaction costs	Expensed as incurred.	Capitalized as a component of the cost of the assets acquired.
In-process research & development assets ("IPR&D")	Capitalized as an indefinite-lived intangible asset, regardless of whether the IPR&D asset has an alternative future use.	Expensed if the IPR&D has no alternative future use. Capitalized as an indefinite-lived intangible asset if the IPR&D has an alternative future use.
Measurement period	Acquirer has up to one year to obtain information about facts and circumstances that existed as of the acquisition date and adjust provisional amounts recognized.	No measurement period.
Measurement basis of net assets acquired	Measured at fair value with certain exceptions.	Measured following a cost accumulation and allocation model under which the cost of the acquisition is allocated on a relative fair value basis to the net assets acquired.
Consideration transferred is more than the fair value of the net assets acquired (goodwill)	Only arises in a business combination.	Not recognized in an asset acquisition. Any excess consideration transferred over the fair value of the net assets acquired is allocated on a relative fair value basis to the identifiable net assets acquired (excluding nonqualifying assets).
Consideration transferred is less than the fair value of the net assets acquired (bargain purchase)	Recognized as a gain in earnings on the acquisition date.	Generally, no gain is recognized in earnings. The excess fair value of the acquired net assets over the consideration transferred is allocated on a relative fair value basis to the identifiable net assets acquired (excluding nonqualifying assets).
Assembled workforce	Not recognized as a separate intangible asset but rather subsumed into goodwill.	Recognized separately as an intangible asset. For intangible assets that are acquired individually or within a group of assets, the asset recognition criteria in Concepts Statement No. 5 may be met even though the contractual-legal criterion or separability criterion in ASC Topic 804 for business combinations has not been met.
Pre-acquisition contingent assets and liabilities	Pre-acquisition contingent assets and liabilities are recognized at the acquisition date at fair value if the acquisition date fair value of the asset or liability can be determined during the measurement period. Otherwise, the contingent asset or liability is accounted for in accordance with ASC Topic 450.	Pre-acquisition contingent assets and liabilities are accounted for in accordance with ASC Topic 450.
Deferred taxes	Generally recorded on most temporary book/tax differences of assets acquired and liabilities assumed in accordance with ASC Topic 840.	Because goodwill is not recognized in an asset acquisition, the measurement of deferred income tax assets acquired and liabilities assumed in an asset acquisition will usually require an iterative approach that affects the measurement of other individual assets and assumed liabilities in the net asset group. The measurement of deferred taxes on temporary differences in an asset acquisition is determined using the simultaneous equation method described in ASC Topic 740.
Leases classification (under both ASC Topic 840 and ASC Topic 842)	ASC Topic 840—Retain the previous classification for the leases of an acquired entity unless the provisions of the lease are modified as indicated in paragraph 840-10-35-5. ASC Topic 842—Reassessment of lease classification is not required unless there is a lease modification and the modification is not accounted for as a separate contract in accordance with ASC Topic 842-10-25-8.	ASC Topic 840—Reassessment of the assumed lease is required. ASC Topic 842—Analogize to the business combinations guidance or reassess the classification of the assumed lease in accordance with the criteria in ASC Topic 842-10-25.
Contingent consideration (that does not otherwise meet the definition of a derivative)	Recognized as its acquisition date fair value as part of the consideration transferred.	Generally recognized when the contingency is resolved (i.e., when the contingent consideration is paid or becomes payable) or when probable and reasonably estimable under ASC Topic 450.

On Our Website

Recent Articles and Presentations

Robert Reilly, a managing director of our firm, and Connor Thurman, a senior associate in our Portland office, authored a four-part article that appeared in the December 9, 2020, December 16, 2020, December 30, 2020, and January 6, 2021, issues of *QuickRead*. *QuickRead* is a publication of the National Association of Certified Valuators and Analysts. The title of Robert and Connor's article is "Best Practices for Estimating the Company-Specific Risk Premium—Parts 1, 2, 3, and 4"

The income approach is one of the three generally accepted valuation approaches. All income approach methods typically include the application of either a present value discount rate or a direct capitalization rate. One consideration in just about every discount rate measurement method is a component related to investment-specific risk. This risk component is called by many names in the professional literature, including unsystematic risk, asymptomatic risk, nondiversifiable risk, nonsystematic risk, project-specific risk, residual risk, investment-specific risk, and company-specific risk. This risk component is also sometimes called alpha. The identification and quantification of alpha—or the subject-specific risk component—is sometimes a controversial issue in the private company valuation. Robert and Connor summarize best practices on what should be considered in the analysis of this unsystematic risk component. Part 1 of Robert and Connor's article focuses on the factors that analysts may consider in developing the alpha estimates when selecting the cost of equity capital for a private company valuation. Part 2 of their article describes the differences between systematic and unsystematic risk in the private company valuation. In Part 3, Robert and Connor present empirical evidence that analysts may consider when estimating the company-specific risk as part of the private company cost of capital measurement. Finally, in Part 4, they summarize best practices related to the functional analysis in developing the company-specific risk premium estimate.

Sam Nicholls, a vice president in our Atlanta office, authored an article that was published in *Business Law Today*, a publication of the American Bar Association. The title of Sam's article is "Flawed M&A Deal Processes That Can Lead to Litigation"

In M&A litigation, the parties to the lawsuit each typically retain an independent valuation analyst to estimate the fair value of the target company stock and to provide expert testimony. Sam's article first examines events that can lead to M&A disputes. He provides examples of courts deciding that the M&A deal process was flawed. Sam goes on to explore examples of when the investment bank's fee structure led to a flawed deal process. He also discusses the use of management-prepared projections and provides examples of these projections being accepted or rejected by the court.

Robert Reilly also authored an article that appeared in the November/December 2020 issue of *Construction Accounting and Taxation*. The title of Robert's article is "Buy/Sell Agreements for Operational and Taxation Purposes."

Valuation analysts, legal counsel, and tax advisers often work together to design and implement buy/sell agreements for closely held companies. Such agreements are intended to achieve a number of operational and taxation objectives—both for the company owners and for the company itself. Robert's article summarizes typical buy/sell agreement structures, ownership transfer funding mechanisms, ownership transferability restrictions, valuation and pricing provisions, and transfer tax planning and compliance considerations. He focuses primarily on buy/sell agreements related to closely held tax pass-through entities, but the issues discussed also apply to closely held C corporations.

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Communiqué

In Print

Robert Reilly, firm managing director, had an article published in the February 2021 issue of *Practical Tax Strategies*. The title of that article was "Functional Analysis as Part of a Valuation, Damages, or Transfer Price Analysis."

Robert Reilly and Connor Thurman, Portland office senior associate, authored a two-part article that appeared in the *Journal of Multistate Taxation and Incentives*. The title of part 1 was "Property-Specific Risk Premium and Unit Principle Valuations" and appeared in the November/December 2020 issue. The title of part 2 was "Benchmarks to Estimate the Property-Specific Risk Premium in Unit Principle Valuations" and appeared in the January 2021 issue.

Robert Reilly and Connor Thurman also had an article published in the November 2020 issue of *The Practical Tax Lawyer*. The title of that article was "What Tax Lawyers Need to Know about the Measurement of Functional and Economic Obsolescence in the Industrial or Commercial Property Valuation (Part 1)."

Robert Reilly and Connor Thurman also had a four-part article published in NACVA's www.quickreadbuzz.com online publication. The article was titled "Best Practices for Estimating the Company-Specific Risk Premium." Part I appeared in the December 9, 2020, issue. Part II appeared in the December 16, 2020, issue. Part III appeared in the December 30, 2020, issue. And, Part IV appeared in the January 6, 2021, issue.

Robert Reilly and Connor Thurman also had an article published in the January/February 2021 issue of *Construction Accounting and Taxation*. The title of that article was "Considering a Company-Specific Risk Premium in the Cost of Capital Measurement."

Robert Reilly was also quoted in the online publication *CFODive* on September 23, 2020. The title of that article was "Companies See 'Fresh-Start' Accounting as Way to Improve Post-Bankruptcy Odds."

Robert Reilly also had an article published in the January 2021 issue of *Practical Tax Strategies*. The title of that article was "Due Diligence regarding Shareholder Agreements in S Corporation M&A Transactions."

Robert Reilly also had an article published in the November/December 2020 issue of *Construction Accounting and Taxation*. The title of that article was "Buy/Sell Agreements for Operational and Taxation Purposes."

Robert Reilly also had an article published in the September 2020 issue of the journal *les Nouvelles*. The title of that article was "Functional Analysis in the Intellectual Property Valuation, Damages, or Transfer Price Measurement."

In addition, Robert Reilly had Part 1 of his article "Intellectual Property within a Bankruptcy Context" published in the September 2020 issue of *les Nouvelles* as well. Part 2 of that article was published in the October 2020 issue.

Robert Reilly also had an article published in the September/October 2020 issue of *Construction Accounting and Taxation*. The title of that article was "Shareholder Agreements in the Purchase and Sale of an S Corporation."

Tim Meinhart, Chicago office managing director, authored an article in the March 2021 issue of *Trusts and Estates*. The title of that article is "Tax Court Weighs in on Defined Value Language and Tiered Valuation Discounts."

Sam Nicholls, Atlanta office vice president, had a two-part article published in the American Bar

Association's *Business Law Review*. Part 1 was titled "Flawed M&A Deal Processes That Can Lead to Litigation" and appeared in the October 2020 issue. Part 2 was titled "The Role of the Investment Banker Compared to the Independent Valuation Analyst in M&A Transactions and Litigation" and appeared in the December 2020 issue.

We are pleased to recognize the contribution of the following Willamette Management Associates professionals to the textbook *Valuing Professional Practices and Licenses: A Guide for the Matrimonial Practitioner*. Willamette analysts authored the following 13 chapters in the upcoming 2021 edition of this book:

- Robert Schweihs and Dean Driskell, "Adjusting the Professional Practice Balance Sheet" (Chapter 3)
- Robert Reilly and Brandon McFarland, "Goodwill Valuation Considerations Involving Professional Practices" (Chapter 7A)
- Robert Reilly and Tim Meinhart, "Reasonableness of Practitioner/Executive Compensation Analyses for Family Law Purposes" (Chapter 12)
- Robert Reilly and Tim Meinhart, "Differences in the Valuation of Large and Small Professional Practices" (Chapter 14)
- Robert Reilly and John Ramirez, "Valuing Identifiable Intangible Assets in a Marital Estate Involving a Professional" (Chapter 17)
- Robert Reilly and John Ramirez, "Valuing Intellectual Property within a Family Law Context" (Chapter 17A)
- Robert Reilly and Mike Binz, "Valuation Professional Guidance from Internal Revenue Service Publications" (Chapter 21)
- Charlene Blalock and Charles Wilhoite, "Professional Designations: Evaluating Expert Witness Credentials in Divorce Cases Involving Professionals." (Chapter 23)
- Robert Schweihs, "Sample Medical Practice Valuation Report" (Chapter 39)
- Robert Reilly and Dean Driskell, "Accounting Practice Valuation Approaches, Methods, and Procedures" (Chapter 41)
- Robert Reilly and Tia Hutton, "What Family Law Counsel Needs to Know about Valuation Analyst Due Diligence Procedures" (Chapter 45)
- Robert Reilly and Kevin Zanni, "Measuring the DLOM for the Marital Estate Business Ownership Interest" (Chapter 68)
- Robert Reilly and Connor Thurman, "Estimating the Company-Specific Risk Premium in the Family Law Valuation" (Chapter will be new in this supplement)

In Person

Robert Reilly delivered a presentation at the American Property Tax Counsel 2020 Annual Client Tax Seminar that was held virtually on October 8, 2020. The title of Robert's presentation was "The Effect of COVID Uncertainty on Unit Principle Valuations."

Robert also delivered a presentation at the American Institute of Certified Public Accountants Forensic and Valuation Services conference that was held virtually on November 9 through 11, 2020. Robert's presentation on November 11 was titled "Bankruptcy and Distressed Companies."

Tim Meinhart, Chicago office managing director, delivered a presentation at a webinar sponsored by Business Valuation Resources on March 31, 2021. The title of that presentation was "Evaluating and Applying Control Premiums."

Weston Kirk, Atlanta office vice president, and Ben Duffy, Atlanta office manager, delivered a presentation at the National Association of Certified Valuators and Analysts Georgia State Chapter meeting which was held virtually on December 4, 2020. The topic of their presentation was "Subsequent Events in Valuations."

Robert Reilly and Portland office managing director John Ramirez will deliver a presentation at the upcoming Wichita Property Tax Conference 2021 in Wichita on July 26. The topic of their presentation will be "Best Practices in the Valuation of Goodwill, Going-Concern Value, and Assembled Workforce."

Robert Reilly and Portland office senior associate Connor Thurman will deliver a presentation at the upcoming Wichita Property Tax Conference 2021 on July 28 as well. The topic of their presentation will be "Best Practices for the Measurement of Functional and Economic Obsolescence."

Encomium

Curtis Kimball, Atlanta office managing director, was appointed to the editorial review board of the American Society of Appraisers professional journal *Business Valuation Review* for the 2020–21 term.

Insights Thought Leadership Archives

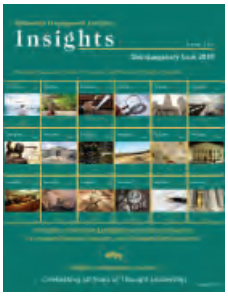
❑ Winter Issue 2021
Thought Leadership in Estate and Gift Transfer Tax Valuation Matters

❑ Winter Issue 2020
Thought Leadership in Valuation for Bankruptcy Purposes

❑ Winter Issue 2019
Thought Leadership in Family Law Valuation Issues

❑ Autumn Issue 2020
Thought Leadership in Transaction-Related Board Advisory Services

❑ Autumn Issue 2019
Thought Leadership in Forensic Accounting, Special Investigations, and Economic Damages



❑ Special Issue 2018
50 Years of Thought Leadership

❑ Summer Issue 2020
Thought Leadership in Property Tax Planning, Compliance, and Appeals

❑ Summer Issue 2019
Thought Leadership in Estate and Gift Tax Planning, Compliance, and Controversies

❑ Autumn 2018
Thought Leadership Valuation for Fair Value Measurement Purposes

❑ Spring Issue 2020
Thought Leadership in Employee Stock Ownership Plan Employer Stock Valuations

❑ Spring Issue 2019
Thought Leadership in Shareholder Litigation

❑ Summer 2018
Thought Leadership in Intangible Asset Valuation, Damages, and Transfer Price Analyses

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