

# **Accounting Policy & Practice Special Report**

## **Application of Fair Value Measurement in Business Combinations**

May 2, 2008  
Volume 4, Number 3

**ACCOUNTING POLICY & PRACTICE SPECIAL REPORT**

**Gregory C. McCaffery**, President

**Darren McKewen**, Tax and Accounting Group Publisher

**George R. Farrah**, Executive Editor, Tax and Accounting

**Susan Webster**, Managing Editor

**David Schwartz**, Copy Editor

**Accounting Policy & Practice Special Reports periodically supplement the biweekly *Accounting Policy & Practice Report*.** Some Special Reports will be excerpted from forthcoming Accounting Policy & Practice Portfolios. Comments about editorial content should be directed to the managing editor, telephone (703) 341-3000. For Customer Service, call 800-372-1033 or fax 800-253-0332.

**Copyright Policy:** Authorization to photocopy selected pages for internal or personal use is granted provided that appropriate fees are paid to Copyright Clearance Center (978) 750-8400, <http://www.copyright.com>. Or send written requests to the TM Reprint Permission Coordinator at (703) 341-1636 (fax) or [tm@bna.com](mailto:tm@bna.com) (e-mail). For more information, see <http://www.bna.com/corp/index.html> or call (703) 341-3000.

**BNA Tax & Accounting**

1801 S. Bell St.,  
Arlington, VA 22202  
[www.bna.com/TM](http://www.bna.com/TM)

---

<b>TABLE OF CONTENTS</b>
--------------------------

Application of SFAS 157 in Business Combinations, by Mark  
L. Zyla, CPA/ABV, CFA, ASA, Acuitas Inc.

A. Introduction .....	5
B. Purpose of SFAS 157 .....	7
C. Background of Fair Value Measurement and Application to Business Combinations .....	7
D. Concepts Introduced by SFAS 157 .....	8
E. Highest and Best Use Application Criteria Applied to Assets in Business Combination .....	12
F. Application of Fair Value to Liabilities .....	15
G. Fair Value at Initial Recognition .....	16
H. Valuation Approaches in Determining Fair Value in a Busi- ness Combination .....	17
I. Other Definitions—Inputs .....	21
J. Fair Value Hierarchy .....	23
K. Additional Guidance .....	27
L. Impact of Fair Value Measurements on SFAS 141(R) .....	28
M. Conclusion .....	32



## FAIR VALUE MEASUREMENT AND BUSINESS COMBINATIONS

By Mark L. Zyla, CPA/ABV, CFA, ASA. Mark Zyla is a managing director with Acuitas Inc., a business valuation and litigation services firm based in Atlanta. He formerly was with PricewaterhouseCooper's Corporate Finance Consulting Group. He can be reached at 404 898 1137, or mzyla@acuitasinc.com.

*Editor's Introduction: Fair value measurement has recently been a hot topic in discussions on the ongoing credit crunch and illiquidity in the mortgage-derived securities market. This special report explains what accounting standards say on fair value measurement, with a special focus on fair value measurement in business combinations.*

### A. Introduction

There are currently over three dozen Financial Accounting Standards Board statements that describe fair value as the measurement of value. These include Statement Financial Accounting Standard 141, *Business Combinations*, and the recently issued revised SFAS 141(R), also named *Business Combinations*, under which the concept of fair value is the fundamental standard of measurement for business combinations. To provide additional guidance as to what is meant by the concept of fair value, the FASB issued SFAS 157, *Fair Value Measurements* in September 2006. According to the FASB, "This Statement defines fair value, establishes a framework for measuring fair value, and expands disclosure about fair value measurements."<sup>1</sup> *Fair Value Measurements* is intended to be an umbrella statement which clarifies the concept of fair value in financial reporting, particularly in business combinations. However, SFAS 157 is somewhat controversial. The statement was originally intended to be effective for reporting periods beginning after Nov. 15, 2007. On Nov. 14, 2007, however, the FASB delayed for one year the implementation of the statement for non-monetary assets and liabilities to allow issuers of financial statements to more fully understand the impact of fair value concept on their financial statements.

#### History of Fair Value in Financial Reporting

While over three dozen FASB statements refer to fair value, the concept of fair value came to the forefront in financial reporting in relation to accounting measurements in business combinations.

During the Internet boom in the late 1990s', FASB began a project to update Accounting Principles Board 16 which was the standard at that time for accounting for acquisitions. What the project determined was that the value of intangible

<sup>1</sup> SFAS 157 *Fair Value Measurements*, ¶ 1.

assets had dramatically increased, particularly when compared to the value of tangible assets.

The Board determined that under the old APB 16, companies had too much leeway in reporting the value of intangible assets in acquisitions and that financial statements were not fairly representing the allocation of the acquisition price to the assets acquired. Under the old accounting rules most of the value in allocation of purchase price was being recorded as goodwill, which could then be amortized for up to forty years.

On June 29, 2001, the FASB issued SFAS 141, the original FASB standard on business combinations which has since been superseded by SFAS 141(R), which placed stricter requirements on the financial statements of the acquirer for the recognition of intangible assets acquired in a transaction. Paragraph 39 in SFAS 141 requires that, “An intangible asset shall be recognized as an asset apart from goodwill if it arises from contractual or other legal rights or, if not contractual, only if it is capable of being sold, transferred, licensed, rented or exchanged. An assembled and trained workforce, however, is not valued separately from goodwill.”<sup>2</sup> Under SFAS 141, only purchase accounting is allowed; the pooling of interests is no longer allowed. Goodwill is not amortized under SFAS 141. Instead, it must be tested annually for impairment.

Under SFAS 141 there are a number of steps in estimating the fair value of the assets acquired and the liabilities assumed. First, the acquirer has to determine the purchase price. The purchase price is the consideration paid for the equity plus any liabilities assumed plus any expenses such as deal costs from the transaction.

The next step is to determine the intangible assets acquired. SFAS 141 and SFAS 141(R) as revised requires that the acquirer recognize the identifiable intangible assets acquired in a business combination separately from goodwill. SFAS 141 has a fairly comprehensive list of intangible assets, and lists the criteria for recognition of intangible assets acquired. An intangible asset is identifiable if it meets either the separability criterion or the contractual-legal criterion. An intangible asset meets the separability criterion if it:

(1) 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.

To meet the contractual-legal criterion, an intangible asset must be one which:

(2) 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.<sup>3</sup>

In 2001, the FASB also issued SFAS 142, *Goodwill and Other Intangible Assets*, which provides guidance on determining whether or not goodwill recorded after

---

<sup>2</sup> SFAS 141, ¶ 39.

<sup>3</sup> *Id.*, and SFAS 141(R), *Business Combinations*, ¶3k.

the acquisition becomes impaired. SFAS 142 is the result of a compromise between the FASB and various reporting entities. Under SFAS 142, goodwill is tested annually for impairment under a two step test. The first step is to estimate the fair value of the appropriate reporting unit by comparing the fair value to its carrying value (book value). If the fair value is *greater* than book value, then goodwill is not impaired. If the fair value is *less* than the carrying value, then the goodwill may be impaired and a second step is required.

The second step is to estimate the fair values of all of the assets of the reporting unit. New goodwill is then compared to the current carrying value of the goodwill. If the fair value of the new goodwill is less than the fair value of the current goodwill, the difference is the amount of impairment and must be written off.

## B. Purpose of SFAS 157

The purpose of SFAS 157 is to provide additional guidance and to address certain issues related to the measurement of fair value. Accordingly, SFAS:

- revised the definition of fair value;
- further described valuation techniques;
- introduced the fair value hierarchy; and
- expanded required disclosures.

When first issued, the statement was to be effective for fiscal years beginning after Nov. 15, 2007. However, due to preparers' uncertainty about how to implement the statement, on Dec. 14, 2007, the FASB delayed implementation for part of the statement.<sup>4</sup> Companies are required to implement SFAS 157 for financial assets and liabilities, as well as for any other assets and liabilities that are carried at fair value on a recurring basis in financial statements. Examples provided by the FASB include derivatives, loan-servicing assets and liabilities, and some loans and debt linked to business combinations.

The board did, however, provide a one year deferral for the implementation of Statement 157 for other nonfinancial assets and liabilities. These nonfinancial assets and liabilities are related to goodwill, business combinations, and discontinued operations, as well as to some non-financial intangible assets. While the FASB agreed to adopt the one-year delay, it also encouraged the earlier adoption of SFAS 157 for these types of assets.

## C. Background of Fair Value Measurements and Application to Business Combinations

Prior to SFAS 157, the guidelines for applying the fair value measurements in generally accepted accounting principles (GAAP) was dispersed among some

---

<sup>4</sup> FSP FAS 157-2, *Effective Date of FASB Statement No. 157* [http://www.fasb.org/pdf/fsp\\_fas157-2.pdf](http://www.fasb.org/pdf/fsp_fas157-2.pdf). See also, Oct. 1, 2007, letter to the FASB from the Financial Executives International's Committee on Corporate Reporting and Small Public Company Task Force <http://www.financialexecutives.org/eweb/upload/FEI/FAS%20157%20101107.pdf>.

three dozen or more of the pronouncements that required a fair value measurement. Because there were so many differing pronouncements, inconsistencies naturally developed in applying fair value measurements under different statements. After the introduction of SFAS 141 and 142, one of the most common applications of fair value measurements was in business combinations and the subsequent testing of goodwill and other long-lived assets. The requirement of fair value measurements under these statements created a concern among preparers of how to measure fair value in the absence of quoted market prices. SFAS 157 establishes a framework for applying fair value measurements. The FASB believes that the implementation of SFAS 157 will provide improvements to financial reporting as a result of increased consistency, reliability and comparability.<sup>5</sup>

“The fair value framework should provide the Board with a foundation for making improvements to the measurement guidance in its conceptual framework in a subsequent phase of this project.”<sup>6</sup>

An understanding of SFAS 157, *Fair Value Measurements*, is fundamental to the appropriate application of SFAS 141, SFAS 142, and SFAS 141(R)(when effective) in a business combination.

## D. Concepts Introduced by SFAS 157

SFAS 157 introduced several new concepts to clarify the definition of fair value in financial reporting. The following are detailed descriptions of the salient concepts of fair value measurements as it applies to business combinations.

### 1. Definition of Fair Value

Under SFAS 157, fair value is redefined 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.”<sup>7</sup> In this definition, the FASB describes how it “presumes the absence of compulsion,”<sup>8</sup> and that buyers and sellers are independent and knowledgeable. The transaction is assumed to occur in a principal market, which is “the market in which the reporting entity would sell the asset or transfer the liability with the greatest volume and level of activity for the asset or liability.”<sup>9</sup> If a principal market does not exist, then fair value is determined in the most advantageous market,<sup>10</sup> defined as “the market in which the reporting entity would sell the asset or transfer the liability with the price that maximizes the amount that would be received for the asset or minimizes the amount that would be paid to transfer the liability.”<sup>11,12</sup>

<sup>5</sup> Mark L. Zyla and Teresa D. Thamer, *Fair Value Accounting: A Critical Skill for All CPAs*, AICPA: Lewisville, Texas (2007)

<sup>6</sup> Exposure Draft – Proposed Statement of Financial Accounting Standards – Fair Value Measurements, No. 1201-100, June 12, 2004, page vi.

<sup>7</sup> SFAS 157, *Fair Value Measurements*, ¶ 5.

<sup>8</sup> *Id.*, ¶ 6.

<sup>9</sup> *Id.*, ¶ 8.

<sup>10</sup> *Id.*, ¶ 10.

<sup>11</sup> *Id.*, ¶ 13.

A fair value measurement under SFAS 157, and as applied to business combinations, is for a particular asset or liability. The FASB's definition of fair value relates to assets and liabilities because assets and liabilities are a primary subject of accounting measurement. This applies to business combinations in that the assets and liabilities of the acquired entity are stated at their individual fair values as of the date of the combination. However, the definition of fair value is also applied to instruments measured at fair value that are classified in stockholders' equity. An example of this type of measurement would be the reporting unit described in SFAS 142 in years subsequent to a business combination, and the testing of goodwill for impairment.

Therefore, the measurement of fair value should consider attributes that are specific to the asset or liability that would be realized by a market participant in a business combination. The asset or liability may be recognized on a stand alone basis ( e.g., a real estate or some other operating asset such as propriety technology) or as a group of assets and/or liabilities ( e.g., customer relationships or a reporting unit). Whether the asset or liability is a stand alone asset or liability or a group of assets and/or liabilities depends on what is described as its unit of account. The unit of account determines what is being measured by referring to the level at which the asset or liability is aggregated.<sup>13</sup>

A practical problem in a business combinations is how to measure fair value when the business enterprise has multiple units of an item. If, for example, an acquired corporation owns one million shares of another corporation's publicly traded common stock, should the acquirer determine the owned shares' fair value by observing the price of one share and multiplying this price by the quantity one million shares, or should it assess the fair value of these shares by assuming that they would be sold as a block? In practice, these amounts are usually different. This issue —different fair values for different levels of aggregation— is sometimes known as the *aggregation problem*. The FASB refers to this problem as *specifying the unit of account*.<sup>14, 15</sup>

In applying the concept of fair value, it is important to understand certain concepts which are part of the definition. These concepts are: price, principal market or most advantageous market, and market participant, as discussed below.

#### a. Price

A fair value measurement assumes that the asset or liability is exchanged in an orderly transaction between market participants who wish to sell the asset or transfer the liability at the measurement date. An orderly transaction is one in which there has been exposure to the market for a period prior to the measurement date to allow for the usual and customary marketing activities involved in

---

<sup>12</sup> See BNA Tax and Accounting Portfolio 5127, Ketz and Zyla, *Fair Value Measurements: Valuation Principles and Auditing Techniques* (Accounting Policy and Practice Series) (providing examples and analysis of fair value measurements under SFAS 157).

<sup>13</sup> Zyla and Thamer, *supra*, note 5.

<sup>14</sup> SFAS 157, ¶ 6.

<sup>15</sup> Zyla and Thamer, *supra*, note 5, A-107

transactions for such assets or liabilities. An orderly transaction is not a forced transaction, such as a forced liquidation or a distress sale. From the perspective of a market participant that holds the asset or owes the liability, the transaction to sell the asset or transfer the liability is a hypothetical transaction at the measurement date. Therefore, the objective of a fair value measurement is to determine the price needed to sell the asset or that must be paid to transfer the liability at the measurement date (an exit price).<sup>16</sup> In a business combination, the fair value of the assets assumed under the concept of an exit price is what the assets could be sold for or what must be paid to transfer liabilities to any market participant. The fair value is not necessarily the value to the acquiring entity, or the price that the acquiring entity actually paid for the asset, or the impact of the assumed liability to the acquirer.

The concept of “price” in the FASB’s definition of fair value is a current exit price. Thus; fair value is not based on historical prices or on expected future prices. The definition also presumes that both the buyer and the seller are prudent investors that have all the relevant information to make a rational decision about buying and selling the asset or liability. Additionally, the buyer and the seller are presumed to be independent with equal knowledge, so that neither has an advantage as to the price of the transaction.<sup>17</sup> The FASB definition, however, does not presume the existence of an observable price. When an observable price does not exist, the FASB expects the business enterprise to estimate what such a price would be.<sup>18</sup>

#### **b. Principal or Most Advantageous Market**

A fair value measurement assumes that the transaction to sell the asset or transfer the liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability. The *principal market* is the market in which the reporting entity would sell the asset or transfer the liability with the greatest volume and level of activity for the asset or liability.

The *most advantageous market* is the market in which the reporting entity would sell the asset or transfer the liability at a price that maximizes the amount that would be received for the asset, or minimizes the amount that would be paid to transfer the liability, considering transaction costs in the respective market(s).

In either case, the principal or most advantageous market and, thus, market participants should be considered from the perspective of the reporting entity. This perspective allows for differences between and among entities with different activities. If there is a principal market for the asset or liability, the fair value measurement must represent the price in that market whether that price is directly observable or otherwise determined using a valuation technique. This is true even

---

<sup>16</sup> SFAS 157, ¶ 7.

<sup>17</sup> *Id.* ¶ 10.

<sup>18</sup> Ketz and Zyla, *supra*, note 12, A-107

if the price in a different market is potentially more advantageous at the measurement date.<sup>19</sup>

The price in the principal or most advantageous market used to measure the fair value of the asset or liability must *not* be adjusted for transaction costs. Transaction costs represent the incremental direct costs to sell the asset or transfer the liability in the principal or most advantageous market for the asset or liability. Transaction costs are not an attribute of the asset or liability; rather, they are specific to the transaction and will differ depending on how the reporting entity transacts.

However, transaction costs do not include the costs that would be incurred to transport the asset or liability to or from its principal or most advantageous market. If location is an attribute of the asset or liability, as might be the case for a commodity, the price in the principal or most advantageous market used to measure the fair value of the asset or liability must be adjusted for any costs that would be incurred to transport the asset or liability to or from its principal or most advantageous market.<sup>20</sup>

In business combinations the fair value of assets acquired and liabilities assumed are stated on the balance sheet at each of their respective fair values. As stated previously, the definition of fair value is not necessarily the price for which the asset was acquired or the liability assumed, but is an exit price that is the value to a market participant. The market that is assumed would be the principal market for the asset. In absence of a principal market, fair value is determined by the most advantageous market.

### c. Market Participants

SFAS 157 further describes how fair value is based upon a concept of market participant's, not necessarily entity-specific, assumptions. The FASB defines market participants as buyers and sellers in the principal or most advantageous market for the asset or liability who are:

- independent of the reporting entity—that is, they are not related parties,
- knowledgeable, having a reasonable understanding about the asset or liability and the transaction based on all available information, including information that might be obtained through due diligence efforts that are usual and customary,
- able to transact for the asset or liability,
- willing to transact for the asset or liability—that is, they are motivated but not forced or otherwise compelled to do so.<sup>21</sup>

The fair value of the asset or liability must be determined based upon the assumptions that market participants would use in pricing the asset or liability. In

<sup>19</sup> SFAS 157, ¶ 8.

<sup>20</sup> *Id.* ¶ 9.

<sup>21</sup> *Id.* ¶ 10.

developing those assumptions, the reporting entity does not have to identify specific market participants. Rather, the reporting entity should identify characteristics that distinguish market participants generally, considering factors specific to (a) the asset or liability, (b) the principal or most advantageous market for the asset or liability, and (c) market participants with whom the reporting entity would transact in that market.<sup>22</sup>

### **E. Highest and Best Use Application Criteria Applied to Assets in a Business Combination**

A fair value measurement when applied to assets acquired in a business combination as described by SFAS 157, assumes the highest and best use of the asset by market participants. This measurement takes into consideration the use of the asset that is physically possible, legally permissible, and financially feasible at the measurement date. In broad terms, highest and best use refers to the use of an asset by market participants that would maximize the value of the asset, or the group of assets within which the asset would be used. Highest and best use is determined based on the use of the asset by market participants, even if the intended use of the asset by the reporting entity is different.<sup>23</sup>

The highest and best use of the asset establishes the valuation premise used to measure the fair value of the asset. Specifically:

#### **1. In-use**

The highest and best use of the asset is *in-use* if the asset would provide maximum value to market participants principally through its use in combination with other assets as a group, as installed or otherwise configured for use. That might be the case for certain nonfinancial assets. If the highest and best use of the asset is in-use, the fair value of the asset must be measured using an in-use valuation premise. When using an in-use valuation premise, the fair value of the asset is determined based on the price that would be received in a current transaction to sell the asset, assuming that the asset would be used with other assets as a group, and assuming that those assets would be available to market participants. Generally, assumptions about the highest and best use of the asset should be consistent for all of the assets of the group within which it would be used.<sup>24</sup>

#### **2. In-exchange**

The highest and best use of the asset is *in-exchange* if the asset would provide maximum value to market participants principally on a stand alone basis. That might be the case for a financial asset. If the highest and best use of the asset is in-exchange, the fair value of the asset must be measured using an in-exchange valuation premise. When using an in-exchange valuation premise, the fair value of the asset is determined based on the price that would be received in a current transaction to sell the asset standalone.

---

<sup>22</sup> *Id.* ¶ 11.

<sup>23</sup> *Id.* ¶ 12.

<sup>24</sup> *Id.* ¶ 13.

Because the highest and best use of the asset is determined based on its use by market participants, the fair value measurement considers the assumptions that market participants would use in pricing the asset, whether using an in-use or an in-exchange valuation premise.

Appendix A of the SFAS 157 provides the following examples:

**Example 1—Asset Group<sup>25</sup>**

The reporting entity, a strategic buyer, acquires a group of assets (Assets A, B, and C) in a business combination. Asset C is billing software developed by the acquired entity for its own use in conjunction with Assets A and B (related assets). The reporting entity measures the fair value of each of the assets individually, consistent with the specified unit of account for the assets. The reporting entity determines that each asset would provide maximum value to market participants principally through its use in combination with other assets as a group (highest and best use is in-use).

In this instance, the market in which the reporting entity would sell the assets is the market in which it initially acquired the assets (that is, the “entry” and “exit” markets from the perspective of the reporting entity are the same). Market participant buyers with whom the reporting entity would transact in that market have characteristics that are generally representative of both financial buyers and strategic buyers and include those buyers that initially bid for the assets.

As discussed below, differences between the indicated fair values of the individual assets relate principally to the *use of the assets by those market participants* within different asset groups:

a. **Strategic buyer asset group.** The reporting entity, a strategic buyer, determines that *strategic buyers have related assets that would enhance the value of the group* within which the assets would be used (market participant synergies). Those assets include a substitute asset for Asset C (the billing software), which would be used for only a limited transition period and could not be sold standalone at the end of that period. Because strategic buyers have substitute assets, Asset C would not be used for its full remaining economic life. The indicated fair values of Assets A, B, and C within the strategic buyer asset group (reflecting the synergies resulting from the use of the assets within that group) are \$360, \$260, and \$30, respectively. The indicated fair value of the assets as a group within the strategic buyer asset group is \$650.

b. **Financial buyer asset group.** The reporting entity determines that financial buyers do not have related or substitute assets that would enhance the value of the group within which the assets would be used. Because *financial buyers do not have substitute assets*, Asset C (the billing software) would be used for its full remaining economic life. The indicated fair values of Assets A, B, and C within the financial buyer asset group are \$300, \$200, and \$100, respectively.

<sup>25</sup> *Id.* ¶ A7.

The indicated fair value of the assets as a group within the financial buyer asset group is \$600. The fair values of Assets A, B, and C would be determined based on the use of the assets as a group within the strategic buyer group (\$360, \$260, and \$30). Although the use of the assets within the strategic buyer group does not maximize the fair value of each of the assets individually, it maximizes the fair value of the assets as a group (\$650).

**Example 2—Land<sup>26</sup>**

The reporting entity acquires land in a business combination. The land is currently developed for industrial use as a site for a manufacturing facility. The current use of land often is presumed to be its highest and best use. However, nearby sites have recently been developed for residential use as sites for high-rise condominiums. Based on that development and recent zoning and other changes to facilitate that development, while market participant buyers might be broadly classified as strategic and/or financial buyers, there often will be *differences among the market participant buyers* within each of those groups, reflecting, for example, different uses for an asset and different operating strategies. The reporting entity determines that the land currently used as a site for a manufacturing facility could be developed as a site for residential use (for high-rise condominiums).

In this instance, the highest and best use of the land would be determined by comparing (a) the fair value of the manufacturing operation, which presumes that the land would continue to be used as currently developed for industrial use (in-use) and (b) the value of the land as a vacant site for residential use, considering the demolition and other costs necessary to convert the land to a vacant site (in-exchange). The highest and best use of the land would be determined based on the higher of those values.

**Example 3—IPR&D Project<sup>27</sup>**

The reporting entity acquires an in-process research and development (IPR&D) project in a business combination. The reporting entity *does not intend to complete the IPR&D* project. If completed, the IPR&D project would compete with one of its own IPR&D projects (to provide the next generation of the reporting entity's commercialized technology). Instead, the reporting entity intends to hold (lock up) the IPR&D project to prevent its competitors from obtaining access to the technology. The IPR&D project is expected to provide defensive value, principally by improving the prospects for the reporting entity's own competing technology.

For purposes of measuring the fair value of the IPR&D project at initial recognition, the highest and best use of the IPR&D project would be determined based on its use by market participants. **For example:**

a) The highest and best use of the IPR&D project would be *in-use if market participants would continue to develop the IPR&D project* and that use would

---

<sup>26</sup> *Id.* ¶ A10.

<sup>27</sup> *Id.* ¶ A12.

maximize the value of the group of assets in which the IPR&D project would be used. That might be the case if market participants do not have similar technology (in development or commercialized). The fair value of the IPR&D project, measured using an in-use valuation premise, would be determined based on the price that would be received in a current transaction to sell the IPR&D project, assuming that the IPR&D would be used with its complementary assets as a group and that those complementary assets would be available to market participants.

b) The highest and best use of the IPR&D project also would be *in-use if, for competitive reasons, market participants would lock up the IPR&D project* and that use would maximize the value of the group of assets in which the IPR&D project would be used (as a locked-up project). That might be the case if market participants have technology in a more advanced stage of development that would compete with the IPR&D project (if completed) and the IPR&D project would be expected to provide defensive value (if locked up). The fair value of the IPR&D project, measured using an in-use valuation premise, would be determined based on the price that would be received in a current transaction to sell the IPR&D project, assuming that the IPR&D would be used (locked up) with its complementary assets as a group and that those complementary assets would be available to market participants.

c) The highest and best use of the IPR&D project would be *in-exchange if market participants would discontinue the development of the IPR&D project*. That might be the case if the IPR&D project is not expected to provide a market rate of return (if completed) and would not otherwise provide defensive value (if locked up). The fair value of the IPR&D project, measured using an in-exchange valuation premise, would be determined based on the price that would be received in a current transaction to sell the IPR&D project standalone (which might be zero).

## F. Application of Fair Value to Liabilities

A fair value measurement assumes that the liability is transferred to a market participant at the measurement date and that the liability to the counterparty continues; it is not settled. The measurement also assumes that the nonperformance risk relating to that liability is the same before and after its transfer. Nonperformance risk refers to the risk that the obligation will not be fulfilled and it affects the value at which the liability is transferred. Therefore, the fair value of the liability must reflect the nonperformance risk relating to that liability. Nonperformance risk includes, but may not be limited to, the reporting entity's own credit risk. The reporting entity must consider the effect of its credit risk (credit standing) on the fair value of the liability in all periods in which the liability is measured at fair value. That effect may vary, depending on the liability. Examples include whether the liability is an obligation to deliver cash (a financial liability),

whether the liability is an obligation to deliver goods or services (a nonfinancial liability), and the terms, if any, of credit enhancements related to the liability.<sup>28</sup>

In a business combination, just as a reporting entity must assume a valuation premise before it can determine the fair value an asset, a reporting entity must know whether the liability continues in existence before it can assign a fair value to the liability. In other words, the reporting entity must ask whether a market participant would settle the liability so that it is eliminated, or whether a market participant would transfer the liability to another entity. The FASB indicates that in fair value measurements of liabilities, the business enterprise should assume that the liability continues and is not settled.<sup>29</sup> This assumption implies that non-performance risk exists, which is “the risk that the obligation will not be fulfilled.”<sup>30</sup> Thus, the fair value of the liability must reflect this nonperformance risk—which would not exist if the reporting entities assumed the liability were settled.<sup>31</sup>

The typical approach to handling this aspect of liability valuation is to adjust the discount rate when computing the present value of the future cash flows.<sup>32</sup> The effect would be to lower the value of the liability on the balance sheet if the nonperformance risk is greater, and vice versa.<sup>33</sup>

### G. Fair Value at Initial Recognition

When an asset is acquired or a liability is assumed in an exchange transaction for that asset or liability, the transaction price represents the price paid to acquire the asset or the price received to assume the liability (an entry price). In contrast, the fair value of the asset or liability represents the price that would be received to sell the asset or that would be paid to transfer the liability (an exit price). Conceptually, entry prices and exit prices are different. Entities do not necessarily sell assets at the prices paid to acquire them. Similarly, entities do not necessarily transfer liabilities at the prices received to assume them.<sup>34</sup>

In many cases, the transaction price will equal the exit price and, therefore, represent the fair value of the asset or liability at initial recognition. In determining whether a transaction price represents the fair value of the asset or liability at initial recognition, the reporting entity must consider factors specific to the transaction and to the asset or liability. For example, a transaction price might not represent the fair value of an asset or liability at initial recognition if:

- a) The transaction is between related parties.
- b) The transaction occurs under duress or the seller is forced to accept the price in the transaction. For example, if the seller is experiencing financial difficulty, he might be forced to accept a lower price.

<sup>28</sup> *Id.*, ¶ 15.

<sup>29</sup> *Id.*, ¶¶ 15 and C39-C41.

<sup>30</sup> *Id.*, ¶¶ 15 and C42-C49.

<sup>31</sup> Some commentators criticized the FASB for this decision.

<sup>32</sup> CON 5, *Recognition and Measurement in Financial Statements of Business Enterprises* (1984) at ¶ 82.

<sup>33</sup> SFAS 157, ¶ C46.

<sup>34</sup> *Id.*, ¶ 16.

c) The unit of account represented by the transaction price is different from the unit of account for the asset or liability measured at fair value.

d) The market in which the transaction occurs is different from the market in which the reporting entity would sell the asset or transfer the liability; that is, the principal or most advantageous market.

## H. Valuation Approaches in Determining Fair Value in a Business Combination

SFAS 157 identifies the three basic approaches or techniques that should be used to measure fair value: the market approach, income approach, and cost approach, as discussed below.

### 1. Market Approach

The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities (including a business). For example, valuation techniques consistent with the market approach often use market multiples derived from a set of comparables. Multiples might lie in ranges with a different multiple for each comparable. The selection of where within the range the appropriate multiple falls requires judgment, considering factors specific to the measurement (qualitative and quantitative).

Valuation techniques consistent with the market approach also include matrix pricing. *Matrix pricing* is a mathematical technique used principally to value debt securities without relying exclusively on quoted prices for the specific securities, but rather by relying on the securities' relationship to other benchmark quoted securities.<sup>35</sup>

The *International Glossary of Business Valuation Terms* defines the market approach as "a general way of determining a value indication of an . . . intangible asset by using one or more methods that compares the subject . . . to intangible assets that have been sold".<sup>36</sup> In other words, the market approach to valuing intangible assets uses methods that compare data from market derived transactions and applies that data to the those intangible assets as an indication of their value. The approach seems reasonable enough. The difficulty in applying the market approach to the valuation of intangible assets is that unlike common stock, intangible assets are not normally traded in a free and open market or on an organized exchange.

*The Practicing CPA* augments this description by suggesting that:

"The market approach estimates fair value by comparing a financial measurement or other metric of the subject company to a multiple of similar financial measurement or metric of a similar guideline company whose shares are transacted in the market place. For example, a commonly used financial measurement is a multiple of price to earnings

<sup>35</sup> *Id.*, ¶ 18

<sup>36</sup> <http://www.cpa2biz.com/resourcecenters>.

or the P/E ratio. The market approach is easily understood in that it estimates value through transactions of similar assets or business interests in the market. The difficulty in applying the market approach, particularly in estimating the value of intangible assets, is in identifying guideline assets or business interests similar enough to support a valid comparison.”<sup>37</sup>

## 2. Income Approach

The income approach uses valuation techniques to convert future amounts (for example, cash flows or earnings) to a single present amount (discounted). The measurement is based on the value indicated by current market expectations about those future amounts. Those valuation techniques include: present value techniques; option-pricing models, such as the Black-Scholes-Merton formula (a closed-form model) and a binomial model (a lattice model), which incorporate present value techniques; and the multi-period excess earnings method, which is used to measure the fair value of certain intangible assets.<sup>38</sup>

The *International Glossary of Business Valuation Terms* defines the income approach as “a general way of determining a value indication of . . . an intangible asset using one or more methods that convert anticipated benefits into a present single amount.”<sup>39</sup>

*The Practicing CPA* describes the methods under the income approach as used in measuring fair value as follows:

“One method commonly used under the income approach is the discounted cash flow analysis. The discounted cash flow method estimates value through the expectation of future cash flows that the asset or business interest will generate, discounted to the present at a risk-adjusted rate of return commensurate with the risk of actually receiving the cash flows. The discounted cash flow method can also be used to estimate the fair value of a specific intangible asset by estimating cash flows that can be generated by the entire business and deducting fair returns on all of the other assets that contribute to the generation of the cash flow. This method is sometimes also referred to as the multiperiod excess earnings method. The residual cash flow after deducting returns on all of the other assets is what is generated by the specific intangible asset. The present value of the residual cash flow is discounted at a rate reflective of the risk of the intangible asset in order to estimate the fair value of the specific intangible asset.”<sup>40</sup>

## 3. Cost Approach

The cost approach to valuation is based on the amount that currently would be required to replace the service capacity of an asset (often referred to as current replacement cost). From the perspective of a market participant (seller), the price that would be received for the asset is determined based on the cost to a market participant (buyer) to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence. Obsolescence encompasses physical deterioration, functional (technological) obsolescence, and economic (external) obsolescence

<sup>37</sup> Zyla, Mark L., “Auditing Fair Value Measures,” *The Practicing CPA Online*, October 2003 (<http://www.aicpa.org/pubs/tpcpa/oct2003/auditing.htm>)

<sup>38</sup> *Id.*

<sup>39</sup> [http://www.cpa2biz/Resource Centers/](http://www.cpa2biz/Resource%20Centers/)

<sup>40</sup> Zyla, *supra*, note 37.

and is broader than depreciation for financial reporting purposes (an allocation of historical cost) or tax purposes (based on specified service lives).

As applied to valuation for financial reporting purposes in business combinations:

“The concept underlying the cost approach is that the fair value of an asset or even an entire business is estimated by the current replacement cost of the asset or the entire business. The replacement cost of the asset is what it would cost currently to replace the asset or an entire business with an asset or group of assets of comparable utility. The cost approach is often used to estimate the value of specific assets, such as a building or machinery and equipment, or certain intangible assets such as customer relationships. Because of its nature, however, the cost approach is difficult to apply in estimating the fair value of an entire operating business.”<sup>41</sup>

A standard definition of the cost approach can be found in the *International Glossary of Business Valuation Terms* which defines the approach as, “a general way of determining a value indication of an individual asset by quantifying the amount of money required to replace the future service capability of that asset.”<sup>42</sup>

The cost approach should not to be confused with the asset approach, which is defined by the *International Glossary*, as “a general way of determining a value indication of a business, business ownership interest, or security using one or more methods based on the value of the assets net of liabilities.”<sup>43</sup>

SFAS 157 emphasizes that valuation techniques consistent with the market approach, income approach, and/or cost approach should be used to measure fair value, particularly in a business combination. As the statement correctly points out, in some cases, a single valuation technique is appropriate. In other situations, multiple valuation techniques will be more appropriate. If multiple valuation techniques are used, the reporting entity should evaluate the results (respective indications of fair value), considering the reasonableness of the range indicated by those results. The fair value measurement is the point within that range that is most representative of fair value in the circumstances.

The following examples from the Appendix of the SFAS 157 illustrate the use of multiple valuation techniques which are helpful in estimating fair value in business combinations.

#### **Example 4—Machine Held and Used<sup>44</sup>**

The reporting entity tests for impairment an asset group that is held and used in operations. The asset group is impaired. The reporting entity measures the fair value of a machine that is used in the asset group as a basis for allocating the impairment loss to the assets of the group in accordance with FASB Statement 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*. The ma-

<sup>41</sup> *Id.*

<sup>42</sup> International Glossary of Business Valuation Terms, <http://www.cpa2biz.com/resourcecenters>.

<sup>43</sup> *Id.*

<sup>44</sup> SFAS 157, ¶ A14.

chine, initially purchased from an outside vendor, was subsequently customized by the reporting entity for use in its operations. However, the customization of the machine was not extensive. The reporting entity determines that the asset would provide maximum value to market participants through its use in combination with other assets as a group (as installed or otherwise configured for use). Therefore, the highest and best use of the machine is in-use.

The reporting entity determines that sufficient data are available to apply the cost approach and, because the customization of the machine was not extensive, the market approach. The income approach is not used because the machine does not have a separately identifiable income stream from which to develop reliable estimates of future cash flows. Further, information about short-term and intermediate-term lease rates for similar used machinery that otherwise could be used to project an income stream (lease payments over remaining service lives) is not available. The market and cost approaches are applied as follows:

a) **Market approach.** The market approach is applied using quoted prices for similar machines adjusted for differences between the machine (as customized) and the similar machines. The measurement reflects the price that would be received for the machine in its current condition (used) and location (installed and configured for use), thereby including installation and transportation costs. The fair value indicated by that approach ranges from \$40,000 to \$48,000.

b) **Cost approach.** The cost approach is applied by estimating the amount that currently would be required to construct a substitute (customized) machine of comparable utility. The estimate considers the condition of the machine (for example, physical deterioration, functional obsolescence, and economic obsolescence) and includes installation costs. The fair value indicated by that approach ranges from \$40,000 to \$52,000.

The reporting entity determines that the fair value indicated by the market approach is more representative of fair value than the fair value indicated by the cost approach and, therefore, ascribes more weight to the results of the market approach. That determination is based on the relative reliability of the inputs, considering the degree of comparability between the machine and the similar machines. In particular:

- a. The inputs used in the market approach (quoted prices for similar machines) require relatively fewer and less subjective adjustments than the inputs used in the cost approach.
- b. The range indicated by the market approach overlaps with, but is narrower than, the range indicated by the cost approach.
- c. There are no known unexplained differences (between the machine and the similar machines) within that range.

The reporting entity further determines that the higher end of the range indicated by the market approach is most representative of fair value, largely because the majority of relevant data points in the market approach fall at or near the higher

end of the range. Accordingly, the reporting entity determines that the fair value of the machine is \$48,000.

### Example 5—Software Asset<sup>45</sup>

The reporting entity acquires a group of assets. The asset group includes an income-producing software asset internally developed for license to customers and its complementary assets (including a related database with which the software asset is used). For purposes of allocating the cost of the group to the individual assets acquired, the reporting entity measures the fair value of the software asset. The reporting entity determines that the software asset would provide maximum value to market participants through its use in combination with other assets (its complementary assets) as a group. Therefore, the highest and best use of the software asset is in-use. (In this instance, the licensing of the software asset, in and of itself, does not render the highest and best use of the software asset in-exchange.)

The reporting entity determines that in addition to the income approach, sufficient data might be available to apply the cost approach but not the market approach. Information about market transactions for comparable software assets is not available. The income and cost approaches are applied as follows:

a) **Income approach.** The income approach is applied using a present value technique. The cash flows used in that technique reflect the income stream expected to result from the software asset (license fees from customers) over its economic life. The fair value indicated by that approach is \$15 million.

b) **Cost approach.** The cost approach is applied by estimating the amount that currently would be required to construct a substitute software asset of comparable utility (considering functional, technological, and economic obsolescence). The fair value indicated by that approach is \$10 million.

Through its application of the cost approach, the reporting entity determines that market participants would not be able to replicate a substitute software asset of comparable utility. Certain attributes of the software asset are unique, having been developed using proprietary information, and cannot be readily replicated. The reporting entity determines that the fair value of the software asset is \$15 million, as indicated by the income approach.

## I. Other Definitions – Inputs

The term *inputs* is used in SFAS 157 and is used in applying various valuation techniques (approaches). Inputs refer broadly to the assumptions that market participants would use in pricing the asset or liability, including assumptions about risk. An example of this type of risk are the risks inherent in the assumptions that would be used in a particular valuation technique used to measure fair value.

The FASB defines both observable and unobservable inputs:

---

<sup>45</sup> *Id.*, ¶ A17.

a) Observable inputs are inputs that reflect the assumptions market participants would use in pricing the asset or liability based on market data obtained from sources independent of the reporting entity. In other words observable inputs can be readily determined and confirmed from market based data.<sup>46</sup> Examples of markets in which inputs might be observable for some assets and liabilities (for example, financial instruments) include the following:

- a. **Exchange market.** In an active exchange market, closing prices are both readily available and generally representative of fair value. An example of such a market is the New York Stock Exchange.
- b. **Dealer market.** In a dealer market, dealers stand ready to trade (either buy or sell for their own account), thereby providing liquidity by using their capital to hold an inventory of the items for which they make a market. Typically, bid and ask prices (representing the price the dealer is willing to pay and the price at which the dealer is willing to sell, respectively) are more readily available than closing prices. Over-the-counter markets, where prices are publicly reported by the National Association of Securities Dealers Automated Quotations systems or by Pink Sheets LLC, are dealer markets. For example, the market for U.S. Treasury securities is a dealer market. Dealer markets also exist for some other assets and liabilities, including other financial instruments, commodities, and physical assets (for example, certain used equipment).
- c. **Brokered market.** In a brokered market, brokers attempt to match buyers with sellers but do not stand ready to trade for their own account. In other words, brokers do not use their own capital to hold an inventory of the items for which they make a market. The broker knows the prices bid and asked by the respective parties, but each party is typically unaware of the other party's price requirements. Prices of completed transactions are sometimes available. Brokered markets include electronic communication networks, in which buy and sell orders are matched, and commercial and residential real estate markets.
- d. **Principal-to-principal market.** Principal-to-principal transactions, both originations and resales, are negotiated independently with no intermediary. Little information about those transactions may be released publicly.<sup>47</sup>

b) Unobservable inputs are inputs that reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset or liability based on the best information available in the circumstances. Fair value is often determined through valuation techniques which use unobservable inputs. The FASB points out however, that when using valuation techniques to measure fair value, the use of observable inputs should be maximized and the use of unobservable inputs should be minimized.<sup>48</sup>

---

<sup>46</sup> *Id.*, ¶ 21.

<sup>47</sup> *Id.*, ¶ A20.

<sup>48</sup> *Id.*, ¶ 21.

## J. Fair Value Hierarchy

To increase consistency and comparability in fair value measurements and related disclosures, the fair value hierarchy<sup>49 50</sup> prioritizes the inputs to valuation techniques used to measure fair value into three broad levels.

The fair value hierarchy gives the highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1), and the lowest priority to unobservable inputs (Level 3). In some cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. The level in the fair value hierarchy within which the fair value measurement in its entirety falls should be determined based on the lowest level input that is significant to the fair value measurement in its entirety. Assessing the significance of a particular input to the fair value measurement in its entirety requires judgment, considering factors specific to the asset or liability.

The availability of inputs relevant to the asset or liability and the relative reliability of the inputs might affect the selection of appropriate valuation techniques. However, the fair value hierarchy prioritizes the inputs to valuation techniques, not the valuation techniques. For example, a fair value measurement using a present value technique might fall within Level 2 or Level 3, depending on the inputs that are significant to the measurement in its entirety and on the level in the fair value hierarchy within which those inputs fall.

### 1. Level 1 Inputs

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. An active market for the asset or liability is a market in which transactions for the asset or liability occur with sufficient frequency and volume to provide pricing information on an ongoing basis. A quoted price in an active market provides the most reliable evidence of fair value and shall be used to measure fair value whenever available.

However, if the reporting entity holds a large number of similar assets or liabilities (for example, debt securities) that are required to be measured at fair value, a quoted price in an active market might be available but not readily accessible for each of those assets or liabilities individually. In that case, fair value may be measured using an alternative pricing method that does not rely exclusively on quoted prices (for example, matrix pricing) as a practical expedient. However, the use of an alternative pricing method renders the fair value measurement a lower level measurement.

In some situations, a quoted price in an active market might not represent fair value at the measurement date. That might be the case if, for example, significant events (principal-to-principal transactions, brokered trades, or announce-

<sup>49</sup> SFAS 157, ¶¶ A21-A25

<sup>50</sup> Zyla and Thamer, *supra*, note 5.

ments) occur after the close of a market but before the measurement date. The reporting entity should establish and consistently apply a policy for identifying those events that might affect fair value measurements. However, if the quoted price is adjusted for new information, the adjustment renders the fair value measurement a lower level measurement.

If the reporting entity holds a position in a single financial instrument (including a block) and the instrument is traded in an active market, the fair value of the position shall be measured within Level 1 as the product of the quoted price for the individual instrument times the quantity held. The quoted price must not be adjusted because of the size of the position relative to trading volume (blockage factor). The use of a blockage factor is prohibited, even if a market's normal daily trading volume is not sufficient to absorb the quantity held and placing orders to sell the position in a single transaction might affect the quoted price.

## 2. Level 2 Inputs

Level 2 inputs are *inputs other than quoted prices* included within Level 1 that are observable for the asset or liability, either directly or indirectly. If the asset or liability has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset or liability.

Level 2 inputs include the following:

- a) quoted prices for similar assets or liabilities in active markets,
- b) quoted prices for identical or similar assets or liabilities in markets that are not active, that is, markets in which there are few transactions for the asset or liability, the prices are not current, or price quotations vary substantially either over time or among market makers (for example, some brokered markets), or in which little information is released publicly (for example, a principal-to principal market),
- c) inputs other than quoted prices that are observable for the asset or liability (for example, interest rates and yield curves observable at commonly quoted intervals, volatilities, prepayment speeds, loss severities, credit risks, and default rates),
- d) inputs that are derived principally from or corroborated by observable market data by correlation or other means (market-corroborated inputs).

Adjustments to Level 2 inputs will vary depending on factors specific to the asset or liability. Those factors include the condition and/or location of the asset or liability, the extent to which the inputs relate to items that are comparable to the asset or liability, and the volume and level of activity in the markets within which the inputs are observed. An adjustment that is significant to the fair value measurement in its entirety might render the measurement a Level 3 measurement, depending on the level in the fair value hierarchy within which the inputs used to determine the adjustment fall.

**a. Examples of Level 2 inputs for particular assets and liabilities****a. *Receive-fixed, pay-variable interest rate swap based on the LIBOR swap rate.***

A Level 2 input would include the LIBOR swap rate if that rate is observable at commonly quoted intervals for the full term of the swap.

**b. *Receive-fixed, pay-variable interest rate swap based on a foreign-***

***denominated yield curve.*** A Level 2 input would include the swap rate based on a foreign denominated yield curve that is observable at commonly quoted intervals for substantially the full term of the swap. That would be the case if the term of the swap is 10 years and that rate is observable at commonly quoted intervals for 9 years, provided that any reasonable extrapolation of the yield curve for year 10 would not be significant to the fair value measurement of the swap in its entirety.

**c. *Receive-fixed, pay-variable interest rate swap based on a specific bank's***

***prime rate.*** A Level 2 input would include the bank's prime rate derived through extrapolation if the extrapolated values are corroborated by observable market data, (for example, by correlation with an interest rate that is observable over substantially the full term of the swap).

**d. *Three-year option on exchange-traded shares.***

A Level 2 input would include the implied volatility for the shares derived through extrapolation to year 3 if: (1) prices for one- and two-year options on the shares are observable; and, (2) the extrapolated implied volatility of a three-year option is corroborated by observable market data for substantially the full term of the option. In that case, the implied volatility could be derived by extrapolating from the implied volatility of the one- and two-year options on the shares and corroborated by the implied volatility for three-year options on comparable entities' shares, provided that a correlation with the one- and two-year implied volatilities is established.

**e. *Licensing arrangement.*** For a licensing arrangement that is acquired in a business combination and that was recently negotiated with an unrelated party by the acquired entity (the party to the licensing arrangement), a Level 2 input would include the royalty rate at inception of the arrangement.

**f. *Finished goods inventory at retail outlet.*** For finished goods inventory that is acquired in a business combination, a Level 2 input would include either a retail price to customers in a retail market or a wholesale price to retailers in a wholesale market, adjusted for differences between the condition and location of the inventory item and the comparable (similar) inventory items so that the fair value measurement reflects the price that would be received in a transaction to sell the inventory to another retailer that would complete the requisite selling efforts. Conceptually, the fair value measurement should be the same, whether adjustments are made to a retail price (downward) or to a wholesale price (upward). Generally, the price that requires the least amount of subjective adjustments should be used for the fair value measurement.

**g. *Building held and used.*** A Level 2 input would include the price per square foot for the building (a valuation multiple) derived from observable market data.

An example would be multiples derived from prices in observed transactions involving comparable (similar) buildings in similar locations.

h. **Reporting unit.** A Level 2 input would include a valuation multiple (for example, a multiple of earnings or revenue or a similar performance measure) derived from observable market data. An example would be multiples derived from prices in observed transactions involving comparable (similar) businesses, considering operational, market, financial, and nonfinancial factors.

### 3. Level 3 Inputs

Level 3 inputs are *unobservable inputs for the asset or liability*. Unobservable inputs should be used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. However, the fair value measurement objective should remain the same; that is, *an exit price* from the perspective of a market participant that holds the asset or owes the liability.

Therefore, unobservable inputs should reflect the reporting entity's own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk).

**Unobservable inputs** should be developed based on the best information available in the circumstances, which might include the reporting entity's own data. In developing unobservable inputs, the reporting entity need not undertake all possible efforts to obtain information about market participant assumptions. However, the reporting entity shall not ignore information about market participant assumptions that is reasonably available *without undue cost and effort*. Therefore, the reporting entity's own data used to develop unobservable inputs should be adjusted if information is reasonably available without undue cost and effort that indicates that market participants would use different assumptions.

#### a. Examples of Level 3 inputs for particular assets and liabilities.

a. **Long-dated currency swap.** A Level 3 input would include interest rates in a specified currency that are not observable and cannot be corroborated by observable market data at commonly quoted intervals, or otherwise, for substantially the full term of the currency swap. The interest rates in a currency swap are the swap rates calculated from the respective countries' yield curves.

b. **Three-year option on exchange-traded shares.** A Level 3 input would include historical volatility, that is, the volatility for the shares derived from the shares' historical prices. Historical volatility typically does not represent current market participant expectations about future volatility, even if it is the only information available to price an option.

c. **Interest rate swap.** A Level 3 input would include an adjustment to a mid-market consensus (nonbinding) price for the swap using data that are not directly observable and that cannot otherwise be corroborated by observable market data.

d. **Asset retirement obligation at initial recognition.** A Level 3 input would include expected cash flows (adjusted for risk) developed using the reporting entity's own data, if there is no information reasonably available without undue cost and effort that indicates that market participants would use different assumptions. That Level 3 input would be used in a present value technique together with other inputs. Examples include: (1) a risk-free interest rate; or (2) a credit-adjusted risk-free rate if the effect of the reporting entity's credit standing on the fair value of the liability is reflected in the discount rate rather than in the expected cash flows.

e. **Reporting unit.** A Level 3 input would include a financial forecast (for example, of cash flows or earnings) developed using the reporting entity's own data if there is no information reasonably available without undue cost and effort that indicates that market participants would use different assumptions.

This statement emphasizes that valuation techniques used to measure the fair value of an asset or liability should maximize the use of observable inputs, that is, inputs that reflect the assumptions market participants would use in pricing the asset or liability developed based on market data obtained from sources independent of the reporting entity.

## K. Additional Guidance—Inputs Based on Bid and Ask Prices

If an input used to measure fair value is based on bid and ask prices (for example, in a dealer market), the price within the bid-ask spread that is most representative of fair value in the circumstances should be used to measure fair value, regardless of where in the fair value hierarchy the input falls (Level 1, 2, or 3). This statement does not preclude the use of mid-market pricing or other pricing conventions as a practical expedient for fair value measurements within a bid-ask spread.<sup>51</sup>

### Implementation Issues

As previously mentioned, fair value measures often require the assistance of outside valuation specialists. The outside specialist is retained by management to assist in providing audit evidence as to the fair value measure. However, management still has the responsibility for the fair value measure even though they have retained an outside specialist. The company's outside auditors then audit the financial statements, which include the work of an outside specialist as audit evidence.

Fair value measurements thus create a new dynamic between a company, its auditor and the outside valuation specialist. Early agreement on salient assumptions and methodologies is important. All parties should understand and agree on the characteristics of market participants, as well as on the asset's "highest and best" use.

<sup>51</sup> Zyla and Thamer, *supra*, note 5.

Effective communication early on in the process between management, their outside specialist, and their auditing firm, is critical in measuring fair value in financial reporting.

The auditing of fair value measures is governed by the American Institute of Certified Public Accountants' Statement of Auditing Standards (SAS) 101, which provides guidance to auditors on how management of an entity determines fair value. SAS 101 requires the auditor to evaluate significant assumptions used by the specialist, to consider whether the valuation model is appropriate, and to test the underlying data used in the analysis. Auditors often use scenario analysis to test assumptions.

Often, the auditor may retain the services of his own valuation specialist as part of the audit team to test the assumptions. The auditor's valuation specialist then will issue a SAS 73 memo giving his or her report on the outside valuation analysis.

Reviews of fair value measurements by the Public Company Accounting Oversight Board have increased. The PCAOB recently issued Staff Audit Practice Alert No. 2, *Matters Related to Auditing Fair Value Measurements of Financial Instruments and the Use of Specialists*.<sup>52</sup>

Upfront communication is critical. Try to have as much agreement in advance with the company and its auditor as to the intangible assets to be valued, the methodologies and as many of the assumptions as you can. Each party should understand:

- the relevant FASB statements related to the acquisition method of business combinations, including SFAS 141 and 142; SFAS 144 and SFAS 141 (R),
- the assumptions as to the fair value measurements, including:
  - the concept of market participants measuring each asset and liability,
  - the level on the fair value hierarchy,
  - each observable and unobservable assumption,
  - exit price assumption
- the use of the valuation analysis as audit evidence in fair value measurements, including:
  - test assumptions used in fair value measurements,
  - performance of scenario analysis as an additional test,
  - understanding that GAAP takes precedence over any specific valuation technique.

## **L. Impact of Fair Value Measurements on SFAS 141(R)**

On Dec. 4, 2007, the FASB issued SFAS 141(R), *Business Combinations*, which will revise the accounting for business combinations for fiscal years beginning

---

<sup>52</sup> [http://www.pcaobus.org/Standards/Staff\\_Questions\\_and\\_Answers/2007/12-10\\_APA\\_2.pdf](http://www.pcaobus.org/Standards/Staff_Questions_and_Answers/2007/12-10_APA_2.pdf)

after Dec. 15, 2008. The FASB had three main objectives in revising the guidance for accounting for business combinations:

- improve the transparency of financial reporting and provide investors with clearer pictures of the true costs of mergers and acquisitions,
- improve the comparability of financial statements world wide. SFAS 141(R) is a joint effort of the FASB and the International Accounting Standards Board. The IASB issued a similar statement on accounting for business combinations during 2008.
- encourage another step from historic cost-based accounting to the fair value measurement standard.<sup>53</sup>

### **Accounting Changes under SFAS 141(R)**

Under SFAS 141(R), the accounting for business combinations will no longer use the purchase method; instead, the “acquisition method” of accounting is introduced. Some of the more salient proposed changes for business combinations under SFAS 141(R) are:

- The definition of a business and a business combination will be revised.
- The fair value of the business combination will be measured at the fair value of the business acquired. Transaction related costs will be expensed rather than capitalized. Contingent consideration will be recognized as of the date of the acquisition.
- Assets and liabilities that are of a contingent nature will be recorded at their relative fair values.
- In-process research and development will be recognized as an asset in a business combination rather than expensed under existing accounting treatment.
- Asset values will be no longer reduced from their fair value in a “bargain purchase.” The difference between the sum of the fair value of the assets acquired and the fair value of the consideration given will result in recognition of a gain in earnings.

### **Definition of a Business**

Under SFAS 141(R) a business is more rigidly defined. SFAS 141(R) defines a business as “an integrated set of activities and assets that is capable of being conducted and managed for the purpose of providing a return in the form of dividends, lower costs, or economic benefits directly to investors or other owners, members, or participants.”<sup>54</sup>

The key concepts in the definition are that a business must be “capable of being conducted” and “managed to provide a return to investors.” An example given by the FASB of a function of a business is that it is managed for lower costs, a capital return or other economic benefit. The net effect of the revised definition

<sup>53</sup> SFAS 141(R), page i.

<sup>54</sup> *Id.*, ¶ 3d, page 2.

of a business is that it removes the self-sustaining requirement and integrates a set of activities requirement from the previous statement. The definition also assumes a hypothetical acquirer.

The new definition rebuts the presumption of a business as a going concern. In other words, is a goodwill element present? As such, development stage entities can be considered businesses. The purpose of the proposed definition is to clarify what constitutes a business. This will likely increase the level of acquisitions that will be classified as business combinations. One clarifying point is that intangible assets acquired in an acquisition *not* qualifying as a business combination must still be recognized in accordance with SFAS 142. In these types of acquisitions, there would not be any residual goodwill.

The statement defines a business combination 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’ also are business combinations as that term is used in this Statement.”<sup>55</sup> By modifying the definition of a business combination, the statement expands the types of transactions that may qualify as a business combination. Under the new statement, certain types of acquisitions that were previously classified as asset acquisition may now be classified as business combinations.

### **Fair Value of the Business Acquired**

The acquisition price under the statement is generally the fair value of the consideration paid for its interest in the acquiree. This consideration can include cash and other assets, equity interests, and contingent consideration; all of these are measured at fair value at the acquisition date. Transaction costs are excluded from the acquisition accounting. They are measured at the applicable standards for the specific consideration.

The revised statement will change current practice for how the fair value is to be allocated. Currently, the costs of the acquisitions are added to the total purchase price. Under the revised standard, acquisition and restructuring costs would be expensed as of the acquisition date.

In many instances, the acquirer of a business may agree to transfer additional consideration such as additional equity interests, cash or other assets to the former owners of the business, if the business meets certain specified targets after the acquisition. The purpose of this contingent consideration is beneficial to both parties in that it helps ensure a smoother transition to the new owner of the business. The former owner benefits from this structure in that contingent consideration (earn outs) will be recorded at fair value on the acquisition date, with changes in fair values generally being recorded through earnings each reporting period thereafter. Previously, any value associated with contingent consideration was treated as goodwill.

*Bargain purchase* occurs when the fair value of the assets of the business acquired exceeds the fair value of the consideration paid. The excess is first used

---

<sup>55</sup> *Id.*, ¶ 3.e.

to reduce goodwill, and then any additional excess beyond the reduction of goodwill would be recorded as a gain on the income statement. This differs from current treatment which reduces noncurrent assets pro rata.

### **Contingent Assets and Liabilities**

In addition to the above, under the revised statement assets and liabilities that are of a contingent nature are to be recorded at their fair values as of the acquisition date. Under current accounting standards, as promulgated in SFAS 5, contingencies that are classified as either assets or liabilities are only recorded at the fair value of the contingency if *both* of two conditions are met:

1. It is probable that an asset had been impaired or a liability had been incurred; and
2. The amount of loss can be reasonably estimated.

Under SFAS 141(R), contingencies are to be measured at their respective fair values. The revised statement indicates that the FASB recognizes concerns about difficulties in measuring contingencies that are classified as either assets or liabilities, yet the FASB has decided to address this concern through the fair value measurements statements which “provides relevant guidance for measuring the fair values of assets and liabilities.”<sup>56</sup>

One interesting aspect of this provision will be estimating the fair value of any potential lawsuits that the acquired company may be exposed to as of the date of acquisition. One way to measure the fair value of this contingency would be to estimate the range of likely outcomes. In order to estimate the fair value of the contingency, management of the acquirer would have to estimate, and possibly disclose, the range of possible outcomes and the probability of each outcome. There may be a concern by some that this sort of disclosure could hinder any settlement negotiations.

### **In-Process Research and Development under SFAS 141(R)**

One interesting change under SFAS 141(R) would be the treatment of in-process research and development (IPR&D) in a business combination. IPR&D is technology that, as of the date of acquisition, is not currently feasible nor is there any alternative future use.

Since the potential viability of any technology under development is somewhat speculative, the current accounting treatment is to expense research and development costs as they are incurred. This philosophy has carried over to the allocation of any in-process technology acquired in a business combination. As such, under this treatment the fair value of in-process research and development under SFAS 141 is currently expensed as of the date of the acquisition.

Under SFAS 141(R), the acquirer will be required to recognize the fair value of research and development assets as an asset apart from goodwill. The revision

---

<sup>56</sup> *Id.*, ¶ B126.

from current accounting, however may leave some accounting inconsistencies in the treatment of IPR&D which will have to be addressed in the future. Specifically, while IPR&D acquired in a business combination would be recognized as an asset apart from goodwill, subsequent expenditures for research and development would still be expensed. Also if IPR&D is purchased as an asset apart from a business combination, the acquisition price for the IPR&D would still be expensed.

There may also be conflicting accounting treatment of IPR&D when fair value is capitalized in a business combination. Current accounting of capitalized IPR&D provides that IPR&D is an indefinite lived intangible asset until the project has been completed or abandoned. Consequently, any test for impairment is based on IPR&D's fair value (SFAS 142). However, once IPR&D becomes "developed," then a life is assigned. The IPR&D would then be tested for impairment under SFAS 144.

### **The Acquisition Method**

The statement revises accounting for a business combination from the purchase method to the acquisition method. The steps in the application of the acquisition method described by the Statement require: identifying the acquirer and determining the acquisition date as discussed below; recognizing and measuring the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree; and recognizing and measuring goodwill or a gain from the bargain price.

### **Identifying the Acquirer**

A difference between the revised business combination statement and its predecessor is that under SFAS 141, there was not definitive guidance as to the need to identify the acquirer. A key concept in the revised statement is that a business combination occurs when one business entity gains control over another business entity. As such, the business entity gaining control is termed as the acquirer.

### **Acquisition Date**

The acquisition date is the date on which the acquirer obtains control of the acquiree. Change of control typically is demonstrated when the acquirer transfers the consideration and obtains responsibility over the assets acquired and liabilities assumed. Often, this occurs on the closing date of the transaction.

## **M. Conclusion**

Fair value measurements are here and are still somewhat controversial. Many implementation issues are still under discussion, causing the FASB to delay implementation of fair value measurement for certain assets for another year.