

# Assets and Liabilities Measured at Fair Value

## 11A.2 OVERVIEW

SFAS No. 157, *Fair Value Measurements*, establishes a formal framework for measuring fair value under GAAP. It (1) codifies the many definitions of fair value included among various other authoritative literature, (2) clarifies and, in some instances, expands on the guidance for implementing fair value measurements, and (3) increases the level of disclosure required for fair value measurements. Note that, although SFAS No. 157 applies to (and amends) the provisions of existing FASB and AICPA pronouncements, it does not, of itself, require any new fair value measurements, nor does it establish valuation standards.

## 11A.3 MEASUREMENT PRINCIPLES

### 11A.3.1 Scope and Applicability of SFAS No. 157

SFAS No. 157 applies to all other accounting pronouncements requiring or permitting fair value measurements, except as follows:

- It does not apply to SFAS No. 123(R), *Share-Based Payment*, and related interpretive pronouncements.
- It does not eliminate the practicability exceptions to fair value determinations allowed by various other authoritative pronouncements.
- It does not apply to pronouncements that allow measurements based on vendor-specific objective evidence (i.e., SOP No. 97-2, *Software Revenue Recognition*, SOP 98-9, *Modification of SOP 97-2, Software Revenue Recognition, with Respect to Certain Transactions*, and related EITF Issues).
- ARB No. 43, Chapter 4, "Inventory Pricing" (which permits use of a "fixed monetary value" for certain precious metals).

### 11A.3.2 Fair Value

Fair value is defined as the price that would be received to sell a specific asset or that would be paid to transfer a specific liability (i.e., the exit price) in an orderly (hypothetical) transaction between market participants at the date of measurement. In determining fair value, the following attributes should be considered, as applicable:

- The condition and/or location of the asset.
- Restrictions to use or further sale of the asset.
- Whether it is a standalone asset or liability or whether it is a group of assets or liabilities (e.g., as part of a reporting unit or business), depending on its "unit of account", which determines the level at which the liability is aggregated or disaggregated.

Fair value measurement assumes that the transaction to sell an asset or transfer a liability occurs in the *principal market* for a specific asset or liability (i.e., the market having the highest volume and level of activity for that asset or liability in which the reporting entity would engage in the transaction). In the absence of a principal market, fair value measurement assumes that the transaction would take place in the *most advantageous market* for the specific asset or liability (i.e., the market that maximizes

the selling price of the asset or minimizes the transfer price of the liability, after taking transaction costs into account). If a principal market exists for a specific asset or liability, fair value is considered to be the price thereof (whether directly observable or determined using a valuation technique) in that market — even if the price in a different market is potentially more advantageous to the reporting entity at the measurement date.

The price used to measure fair value should not be adjusted for transaction costs, because such costs are incremental costs of the transaction and thus do not constitute an attribute of the asset or liability itself. Note, though, that, if the location of the asset or liability is deemed an attribute of the asset or liability (e.g., for a commodity), the price used to determine fair value should be adjusted for any costs necessary to transport it to (or from) its principal or most advantageous market.

Market participants are defined as buyers and sellers that are:

- Independent of the reporting entity (i.e., they are not related parties).
- Knowledgeable, having a reasonable understanding of the asset or liability and the transaction based on all available information, including information obtained through usual and customary due diligence efforts.
- Willing to enter into the transaction (i.e., they are motivated but not forced or otherwise compelled to do so).
- Able to execute the transaction.

The determination of fair value should be based on assumptions that market participants would make in pricing the particular asset or liability. It is not necessary to identify specific market participants, but factors that distinguish market participants generally should be considered, including (1) the asset or liability itself, (2) the principal or most advantageous market for the asset or liability, and (3) the types of market participants with which the reporting entity would transact in that market.

**Application of fair value measurement to assets.** A fair value measurement should assume the “highest and best use” of the asset by market participants that is physically possible, legally permissible, and financially feasible; it refers to the use that would maximize the value of the asset, even if the reporting entity's intended use of it is different. Highest and best use of an asset establishes the valuation premise that should be applied to measure fair value “in use” or “in exchange”, as follows:

- The highest and best use of the asset is in use if the asset would provide maximum value to market participants mainly through its use in combination with other assets as a group (which is often the case for non-financial assets).
- The highest and best use of the asset is in exchange if the asset would provide maximum value to market participants principally on a standalone basis (which is often the case for financial assets).

Fair value for an asset should be determined based on the reporting entity's assessment of whether the highest and best use of the asset would be in use (generally, as an installed or configured asset) or in exchange (generally, standing on its own). In some situations, however, fair value of an asset might be the same under either premise, as, for example, in the case of an entire business (or other reporting unit).

**Application of fair value measurement to liabilities.** A fair value measurement should assume that, after the liability is transferred to a market participant, the risk of non-performance is the same as it was before the transfer (i.e., transfer of a liability does

not settle the reporting entity's obligation to the original counterparty). Thus, fair value should reflect the effects of the reporting entity's credit standing, which may depend on whether the liability calls for delivery of cash (a financial liability) or the delivery of goods or services (a non-financial liability).

### 11A.3.3 Initial Recognition

The price (paid) to acquire an asset or (received) to assume a liability represents the "entry price", whereas the fair value of an asset or liability represents the price that would be received to sell an asset or paid to transfer a liability and is referred to as the "exit price". Conceptually, entry and exit prices are different from one another, although, in many cases, they will be the same (i.e., the transaction price equals the exit price and thus represents fair value at initial recognition). The following factors could cause the entry price to differ from the exit price and should be considered in determining whether, at initial recognition, the transaction price represents fair value:

- The parties to the transaction are related parties.
- The transaction occurred under duress or the seller is forced to accept the price because of financial difficulties.
- The unit of account represented by the transaction price is different from the unit or account for the asset or liability measured at fair value (e.g., there are elements of the transaction in addition to the asset or liability, the transaction includes unstated rights or privileges that should be separately measured, the transaction price includes transaction costs).
- 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 (i.e., the principal or most advantageous market) depending on the type of counterparty.

### 11A.3.4 Valuation Techniques

One or more of the following techniques to determine fair value should be applied, depending on circumstances and the extent of available data:

- Market approach, which uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities (e.g., market multiples, matrix pricing to value debt securities based on their relationship to other benchmark quoted securities).
- Income approach, under which market participants' expectations of future cash flows or earnings are converted into a single discounted present amount (e.g., present value techniques, option-pricing models, the multi-period excess earnings method to value certain intangibles).
- Cost approach, which is based on the amount currently required to replace the service capacity of an asset adjusted for obsolescence (i.e., current replacement cost).

When valuing a single asset or liability for which there are quoted prices in an active market, use of the market approach as the sole technique for measuring fair value is appropriate. In other situations (e.g., when valuing a reporting unit), the application of more than one technique may be necessary. When multiple approaches are used, the results (which are likely to be different from each other) should be evaluated and weighted, taking into account the reasonableness of the range indicated by such results. Fair value is the point within the range of results that is most representative under the circumstances. Generally, valuation techniques should be applied consistently, though a

change in technique (or in its application) would be appropriate when new information becomes available and the new technique (or application) yields a measurement that is equally or more representative of fair value. Revised amounts resulting from a change in valuation techniques or application should be accounted for prospectively as a change in accounting estimate (though the disclosures relating to a change in estimate otherwise called for in SFAS No. 154, *Accounting Changes and Error Corrections*, are not required).

**Fair value hierarchy.** The hierarchy established in SFAS No. 157 assigns priorities to *inputs* of valuation techniques used to measure fair value. Inputs refer, generally, to the assumptions that market participants would use in pricing an asset or liability, including assumptions regarding the risk inherent (1) in applying a particular technique, and (2) the inputs themselves. Inputs are classified as observable (i.e., those reflecting assumptions based on market data obtained from independent sources) or unobservable (i.e., the reporting entity's own assumptions, based on the best information available, about the assumptions that market participants would make).

The fair value hierarchy for inputs includes the following three broad levels:

- Level 1 inputs are quoted (unadjusted) prices for identical assets and liabilities in active markets to which the reporting entity has access; quoted prices in such a market provides the most reliable evidence of fair value and should be used whenever they are available. When the reporting entity holds a large number of similar assets or liabilities, quoted prices may be available but the active market itself may not be accessible for each individual asset or liability. In such a situation, fair value may be measured using an alternative method as a practical expedient (e.g., matrix pricing) that does not rely exclusively on quoted prices. Additionally, a quoted price in an active market may *not* represent fair value at the measurement date when, for example, principal-to-principal transactions, brokered trades, or public announcements occur after the close of a market but before the measurement date. Such events should be identified and, if applicable, the quoted price should be adjusted for the effects of the new information. Note that the fair value of a position in a single financial instrument (e.g., common shares) should be measured as the product of the quoted price for such individual instruments multiplied by the quantity held; no adjustment is permitted to take account of the size of the position relative to trading volume (the so-called blockage factor), even if (1) the normal daily volume in the instrument is insufficient to absorb the quantity held, and (2) placing a sell order for a single transaction would affect the quoted price.
- Level 2 inputs are also observable, either directly or indirectly, but are not quoted market prices for identical assets or liabilities. If the asset or liability has a specified contractual term, the input must be observable for substantially the entire term. Level 2 inputs include
  - — Quoted prices for similar assets or liabilities in an active market.
  - — Quoted prices for similar assets or liabilities in an inactive market (i.e., one in which few transactions take place, prices are not current or vary substantially over time or among market makers, or little public information is released).
  - — Other observable factors for the asset or liability (e.g., interest rates and yield curves at commonly quoted intervals, volatilities, prepayment speeds, the severities of losses, credit risks, default rates).
  - — Those derived mainly from or corroborated by observable market data by correlation or other means (market-corroborated inputs).
- Adjustments to Level 2 inputs may include those for (1) the condition of the asset, (2) the location of the asset, (3) the comparability to the asset or liability of the inputs themselves, and (4) the volume and level of activity of the markets within which the inputs are observed.

- Level 3 inputs are unobservable and should be used to the extent that observable inputs are unavailable and reflect the reporting entity's assumptions concerning those that would be made by market participants. Unobservable inputs should be developed based on the best available information (which could include data generated by the reporting entity itself). Note that, while it is not necessary to undertake all possible efforts to obtain information about market participants' assumptions, information concerning those assumptions that is reasonably available without undue cost and effort may not be ignored.

Note that, when more than one valuation technique is applied, the inputs used may fall within different hierarchical levels. The level within which the fair value measurement itself falls is based on the *lowest* level input that is significant to the fair value measurement in its entirety. If an input is based on bid and ask prices (e.g., in a dealer market), the price within the bid-ask spread that is most representative of fair value should be used, regardless of where in the hierarchy that input falls. Mid-market pricing and other pricing conventions are acceptable as practical expedients for fair value measurements within a bid-ask range.

**Present value techniques.** There are two principal techniques for determining present value: (1) the discount rate adjustment technique; and (2) the expected present value technique (which, itself, may be applied in either of two ways). The discount rate adjustment technique uses a single set of cash flows from the range of possible estimated amounts (i.e., either contractual or most likely, as applicable) discounted at an interest rate derived from observed rates of return for comparable assets or liabilities traded in the market. Comparability is established by taking account of (1) the nature of the cash flows, and (2) other factors, including credit standing of the issuer. When a single comparable asset or liability is not reflective of the risk inherent in the cash flows of the asset or liability being measured, it may be possible to derive an appropriate discount rate using data for several comparable assets or liabilities in conjunction with the risk-free yield curve (termed a "build-up" approach).

In applying the discount rate adjustment technique to a fixed claim on cash flows, the adjustment for risk inherent in the cash flows of the asset or liability being measured is incorporated in the discount rate itself. In other cases (i.e., for cash flow claims that are not fixed), it may be necessary to adjust the amount of cash flows to achieve comparability between the observed asset or liability from which the discount rate is derived and the asset or liability being measured.

The expected present value technique starts with a set of cash flows that (theoretically) represents the probability-weighted average of all possible cash flow outcomes (i.e., the expected value). Pursuant to one method of apply this technique, the amount of expected cash flows is adjusted for risk by subtracting a cash risk premium to arrive at a "certainty equivalent" amount, which is then discounted at the risk-free rate. Under the other method, a risk premium is added to the risk-free interest rate, and that adjusted rate is used to discount the expected value of cash flows. In applying the expected present value technique, the choice of methods will depend on specific characteristics of the asset or liability being measured, the availability of data, and judgment.

### **11A.3.5 Effective Date of SFAS No. 157**

SFAS No. 157 is effective for financial statements of fiscal years beginning after November 15, 2007 (and for financial statements of interim periods within those years). Earlier application is encouraged for fiscal years for which financial statements have not been issued (including statements for interim periods within such years). Generally, SFAS

No. 157 should be applied prospectively as of the beginning of the fiscal year in which it is initially adopted. Note, however, that retrospective application is required for the following:

- A position in a financial instrument that trades in an active market held by a broker-dealer or investment company subject to the provisions of AICPA audit guides for such entities that was previously measured at fair value using a blockage factor.
- A financial instrument that was previously measured at fair value at initial recognition pursuant to SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, in accordance with the guidance in EITF Issue No. 02-3, "Issues involved in Accounting for Derivative Contracts Held for Trading Purposes and Contracts involved in Energy Trading and Risk Management Activities".
- A hybrid financial instrument that was previously measured at fair value upon initial recognition under SFAS No. 133 using the transaction price determined pursuant to SFAS No. 155, *Accounting for Certain Hybrid Financial Instruments*.

In applying retrospective application to the foregoing financial instruments upon initial adoption of SFAS No. 157, the difference between the carrying amounts and the fair values of such instruments should be reported as a cumulative-effect adjustment to the opening balance of retained earnings (and separately disclosed).

The disclosures required by SFAS No. 157 (including the disclosures concerning the valuation techniques used that are applicable only to annual financial statements) should be presented in the first interim period of the first fiscal year in which SFAS No. 157 is initially adopted.

### **11A.3.6 Application Guidance**

SFAS No. 157 incorporates portions of the guidance contained in FASB Concepts Statement No. 7, *Using Cash Flow Information and Present Value in Accounting Measurements*; it also clarifies and reconsiders certain aspects of the provisions of SFAC No. 7. The following computational examples explain and illustrate the manner in which the two main present value techniques addressed in SFAC No. 7 (the discount rate adjustment technique and the expected present value technique) can be used to determine fair value.

#### **Example 1. Application of the Discount Rate Adjustment Technique**

##### **FACTS:**

Assume that Client Company, Inc. holds a contractual right to receive \$100,000 in one year's time. Though there is no established market for the specific asset held, market price information is available for a comparable asset having the same credit risk. Such asset, which is a contractual right to receive \$66,000, has a market price of \$59,600.

##### **SOLUTION:**

The comparable asset's implied rate of return is 10.74%, computed as  $(\$66,000/\$59,600) - 1$ . Applying that implied market rate to the asset held by Client Company, the fair value would be \$90,302 (computed as  $\$100,000/1.1074$ ). Note that, when the discount rate adjustment technique applied to a fixed claim (asset or liability), the adjustment for risk is taken into account in the discount rate.

## Example 2. Application of the Discount Rate Adjustment Technique—Build-up Approach

### FACTS:

Assume the same facts as in Example 1, except that the most comparable asset is the contractual right to receive cash in two years' time and that the credit risk associated with that asset is at a higher level than the asset held by Client Company. Specifically, the implied annual rate of return on the comparable asset is 11.8%, which includes a risk premium estimated to be 35 basis points higher than that of the asset held by Client Company.

### SOLUTION:

Using the term structure of interest rates (i.e., the yield curve), assume that Client Company determines that the approximate *one-year* implied rate of return on the comparable asset is 11.22%, which must be further reduced by 35 basis points to take account of the increased credit risk premium. Hence, the discount rate to be used is 10.87% (11.22 - .35), and the fair value of the asset held is \$90,195, computed as \$100,000/1.1087. Observe that the fair value determined in this example is different from that in Example 1, because it was necessary in this example to estimate the one-year rate of return from the information available for a comparable asset with different terms from that of the asset held.

## Example 3. Expected Present Value Technique—Cash Flows Adjusted for Market Risk

### FACTS:

Assume that Client Company, Inc. holds an asset for which cash will be received in one year's time. The probability-weighted cash inflows are as follows:

Possible cash inflows	Probability of occurrence	Probability-weighted cash inflows
\$ 10,000	10%	\$ 1,000
12,000	15	1,800
15,000	60	9,000
18,000	1	<u>2,700</u>
Expected cash flows		<u>\$ 14,500</u>

Also assume that the risk-free interest rate for cash flows with a one-year time horizon is 6% and that the risk premium is 2%.

### SOLUTION:

Under one method of applying the expected present value technique, expected cash flows are adjusted for market risk (to determine the risk-adjusted certainty equivalent) and then discounted at the risk-free rate. Using that method, the risk adjusted amount is \$14,231, calculated as \$14,500 × (1.06/1.08). Fair value of \$13,425 is thus determined by discounting the risk-adjusted amount of \$14,231 using the 6% risk-free rate (\$14,231/1.06).

#### **Example 4. Expected Present Value Technique—Market Risk included in the Discount Rate**

##### **FACTS:**

Assume the same facts as in Example 3, except that, in applying the expected present value technique, Client Company incorporates the market risk premium into the discount rate.

##### **SOLUTION:**

When the market risk premium is included in the discount rate, fair value is computed as the present value of probability-weighted (i.e., expected) cash flows discounted at the risk-adjusted rate (which is the sum of the risk-free plus risk premium rates). Thus, fair value is also \$13,425, computed as  $\$14,500/1.08$ .

### **11A.4 DISCLOSURES**

SFAS No. 157 contains the formal framework for determining fair values of assets and liabilities that are required by other authoritative GAAP pronouncements to be measured at fair value. The following disclosure requirements are in addition to those information required by such other pronouncements.

The following information should be disclosed (for each interim and annual period) separately for each major category of assets and liabilities measured at fair value on a recurring basis:

- Fair value as of the reporting date.
- The level in the hierarchy in which the fair value measurements in their entirety fall, separately for measurements using Level 1, Level 2, and Level 3 inputs.
- For fair value measurements using significant unobservable (Level 3) inputs, a reconciliation of the beginning and ending balances, showing (1) total realized and unrealized gains or losses included in earnings and the income statement location in which such gains and losses are reported, (2) purchases, sales, issuances, and net settlements, and (4) transfers to or from Level 3 inputs (note that, for derivative assets and liabilities, the reconciliation may be presented on a net basis).
- The amount of total gains or losses related to fair value measurements using Level 3 inputs included in earnings that are attributable to the change in unrealized gains or losses for assets or liabilities still held at the balance sheet date, including identification of the income statement location in which such unrealized gains or losses are reported.
- Identification of the valuation techniques used and a discussion of any change in the valuation techniques applied (required only for annual financial statements).
- For assets and liabilities measured at fair value on a non-recurring basis in periods subsequent to initial recognition (impaired assets):
  - — Fair values recorded during the period and the reasons therefor.
  - — The level in the hierarchy in which the fair value measurements in their entirety fall, separately for measurements using Level 1, Level 2, and Level 3 inputs.
  - — For fair value measurements using significant Level 3 inputs, a description of the inputs and the information used to develop them.

- — Identification of the valuation techniques used and a discussion of any changes in the valuation techniques applied (required only for annual financial statements).

Although not required, combining the information required by SFAS No. 157 with the fair value information disclosed pursuant to other pronouncements (e.g., that required by SFAS No. 107, *Disclosures about Fair Value of Financial Instruments*, is encouraged (see Section 39 , Financial Instruments, Derivatives, and Hedging Activities).

## **11A.5 RELATED TOPICS**

Section 2 , Marketable Securities

Section 3 , Notes and Accounts Receivable

Section 6 , Investments in Less Than Majority Owned Companies

Section 10 , Notes Payable, Bonds, and Other Debt

Section 10A , Asset Retirement Obligations

Section 12 , Capital Stock

Section 28 , Business Combinations

Section 39 , Financial Instruments, Derivatives, and Hedging Activities

Section 41 , Interim Reporting

Section 42 , Leases—Lessees

Section 43 , Leases—Lessors

Section 44 , Nonmonetary Transactions

Section 45 , Pension Costs and Postretirement and Postemployment Benefits

Section 54 , Banking and Thrift Institutions

Section 58 , Insurance

Section 59 , Mortgage Banking

Section 72 , Accounting and Reporting by Defined Benefit Pension Plans

Section 77 , Transfers and Servicing of Financial Assets

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