Chapter 1

Fair Value Measurements and Financial Reporting[1]

Five years after Enron, corporate financial reporting stands at a crossroads. One route leads deep into the lightly charted terrain of "principles-based" reporting, where thousands of rules and regulations would be replaced by a relative handful of guiding precepts. The norm in Europe, this would be terra incognita of the most profound sort for American companies. Proponents argue that the unceasing torrent of new standards and regulations is creating an unworkable system. Foes counter that if the existing rules failed to prevent corruption and provide transparency, a system based on vague pronouncements is doomed to fail. The alternative path entails a continuing series of changes to the status quo that would undoubtedly increase complexity even as they attempt to improve transparency and accountability. No issue underscores these concerns more dramatically than fair-value accounting, in which assets and liabilities are marked to market rather than recorded at historical cost. The degree to which fair-value accounting is embraced (or not) will have a major impact on the very nature of corporate finance. In short, Sarbanes-Oxley was just a warm-up for what lies ahead.

—Ronald Fink
"Think reporting has changed since Enron? Just wait."
CFO Magazine, September 1, 2006

OBJECTIVES OF FINANCIAL REPORTING AND THE CURRENT ENVIRONMENT

In order to understand the historical and ongoing changes in generally accepted accounting principles (GAAP) surrounding fair value accounting and fair value measurements, one needs to grasp the basic objectives of financial reporting. Accounting standard setters strive to meet these objectives in their pronouncements, which through the years have been consistent—to provide users of financial statements the most meaningful information to inform their investment decisions. As the environment has changed, we have seen changes in the type of information standard setters consider most meaningful.

One of the sources of U.S. accounting literature that discusses the objectives of financial reporting is Statement of Financial Accounting Concepts No. 1, *Objectives of Financial Reporting by Business Enterprises,* published by the Financial Accounting Standards Board (FASB) in 1978. Two key points are:

1. Financial reporting is intended to provide information in making various types of decisions (e.g., investment, credit, resource allocation, management performance).
2. The objectives of financial reporting are affected by the economic, legal, political, and social environment.

The FASB and the London-based International Accounting Standards Board (IASB) are currently working on a joint initiative called the Conceptual Framework project. The goal of this multiyear project is to provide a foundation for the future development of accounting standards by the FASB and IASB. Both of these boards have goals of developing accounting standards with the following attributes:

- Principles-based
- Internally consistent
- Internationally converged
- Lead to financial reporting that provides the information needed for investment, credit, and similar decisions[2]

Phase A of the Conceptual Framework project is pending at the time of this writing, and the two boards have substantially completed their considerations of the objectives of financial reporting. An interim report of this phase said the following about the objectives:

> In the Boards' existing frameworks, the overriding objective is to provide information that is useful to present and potential investors and creditors and others in making investment, credit, and similar resource allocation decisions. The Boards' discussions of the objectives of financial reporting and decisions reached to date are based on that overriding objective.
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> The Boards made the following decisions about the objectives of financial reporting:
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> As with the existing frameworks, the Boards' converged framework should be concerned with general purpose financial reports that focus on the common information needs of external users. The framework should identify the primary users as present and potential investors and creditors (and their advisors), rather than focus only on the information needs of existing common shareholders. Later in the project, the Boards will consider whether financial reporting also should provide information to meet the information needs of particular types of users, such as different kinds of equity participants.
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> General purpose financial reporting should provide information about the entity to the external users who lack the power to prescribe the information they require and

> therefore must rely on the information provided by an entity's management. The entity's management also will be interested in that information. However, because management has the power to obtain the information it requires, any additional information needs of management are beyond the scope of the framework. Similarly, additional information needs of particular users (for example, a credit rating agency or a principal lender) that may have the power to prescribe the information they require are beyond the scope of the framework.
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> General purpose financial statements should provide information that is helpful to users in assessing an entity's liquidity and solvency, which is consistent with the overall objective of providing decision-useful information to a wide range of external users. This does not mean, however, that the information provided in the financial statements should focus on meeting the information needs of particular types of users that use the financial statements primarily or only to help them assess an entity's liquidity and solvency.
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> Stewardship or accountability should not be a separate objective of financial reporting by business entities. The Boards agreed that the converged framework should clarify that financial reporting information consistent with the primary objective would include financial reporting information useful for assessing management's stewardship. The Boards agreed to continue with the original plan to issue a due process document for Phase A before consideration of prospective financial reporting information. The Boards agreed that the due process document should indicate that the Boards will consider prospective financial reporting information in a later phase, specifically Phase E—presentation and disclosure, including the boundaries of financial reporting.[3]

Since the 1990s, financial reporting has been moving away from measuring certain assets and liabilities at historical cost and more toward fair value. Currently, GAAP requires (or allows) a mixture of both types of measurements as well as other measurement types. Although financial reporting is unlikely to entirely get away from mixed attributes, the accounting standard setters in the United States and internationally are expanding their emphasis on fair value accounting because they believe it provides more relevant information to users of financial statements.

Reforms that started with the Sarbanes-Oxley Act of 2002 stimulated U.S. accounting and auditing regulators and standard setters to take action. The primary U.S. organizations involved in these reforms are the U.S. Securities and Exchange Commission (SEC), the FASB, and the U.S. Public Company Accounting Oversight Board (PCAOB), which are attempting to strengthen financial reporting as well as increase public confidence in the capital markets. The reforms caused these entities to rethink principles and regulations affecting financial reporting, the capital markets, and the overall economy. The SEC, FASB, and PCAOB are currently working both independently and jointly to make significant changes to the system that relies heavily on financial reporting. The FASB, under Chairman Robert H. Herz (recently re-appointed to a second five-year term), has undertaken an aggressive agenda to reduce the complexity of accounting standards and improve the transparency and usefulness of financial reporting for investors and capital markets. These issues are international in scope, as they affect both the U.S. and global economies.[4]

To highlight the universal appeal of these goals, in 2002 the FASB and IASB entered into a memorandum of understanding called the *Norwalk Agreement*. The two boards committed to use their best efforts to make their existing financial reporting standards fully compatible as soon as practicable and to coordinate their future work programs to ensure that once achieved, compatibility is maintained.

Proponents of fair value accounting in financial reporting say such accounting standards make financial information more relevant and improve transparency of companies to stakeholders. Historically, accounting information focused on presenting information based on the cost of acquiring assets and the expiration of those costs. This type of accounting measurement was largely relevant to investors and creditors in the past, because in many instances one could reasonably assess the value of shares or quality of the collateralized assets based on the company's book value. Exhibit 1.1 shows that the price-to-book-value ratio of the Dow Jones Industrial Average (DJIA) stock index generally ranged from 1.0 to 2.0 between 1950 and 1990. By the 1990s, investors were, knowingly or unknowingly, increasingly placing substantial value on the intangible assets of companies. As Exhibit 1.1 demonstrates, the price-to-book-value ratio of the DJIA reached 8.2 in 2000, which reflects substantial value being placed on intangible (largely unbooked) assets by investors. Since then, this ratio has decreased, but it is still higher than it was in the past.

Critics of fair value accounting claim that the measurements are too subjective, too complex, and unnecessarily increase volatility of earnings. Accountants and auditors make many of these criticisms, as do some managements. Despite these criticisms, the accounting standard setters are moving toward fair value measurements to make financial reporting more relevant to users.

One can classify the key parties in financial reporting as preparers, auditors, and users. Preparers are primarily management of companies in possession and control of the underlying financial records. Auditors in the United States are certified public accountants (CPAs)[5] who are licensed by state government agencies, and perform

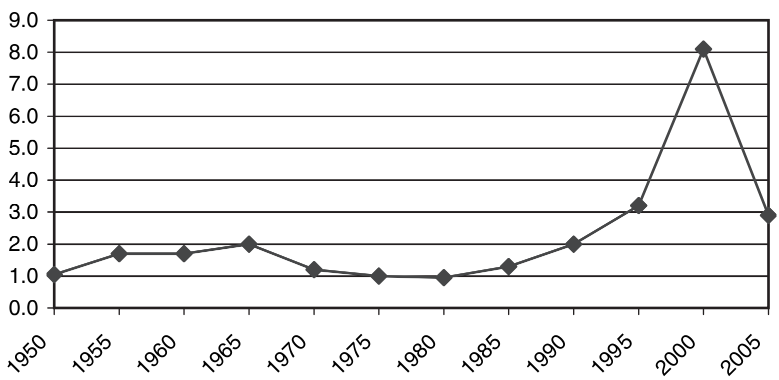

Exhibit 1.1 Price-to-Book Value Ratio of Dow Jones Industrial Average Stock Index[6]

verifications on the preparers' financial reporting by following auditing standards or regulations. One commonly thinks of external users of financial information as existing and potential investors and creditors and their advisors. Management are also users of their financial information, but financial accounting standards place little focus on these users because they have control over the underlying accounting records.

When fair value measurements are necessary for financial reporting, preparers may have valuation specialists on their staff or hire outside consultants to provide the measurements. Auditors may rely on valuation specialists in their firms as technical resources and reviewers in the audit process.

More emphasis on fair value measurements in financial reporting provide opportunities for valuation specialists willing to study and become competent in this area. Because this area involves GAAP, a background or understanding in accounting and auditing can help the valuation specialist understand the meaning and implications of fair value accounting literature.

Valuation specialists are being held to an increasingly higher level of performance. Many auditors are now familiar with best practices literature on fair value measurements, such as *Assets Acquired in a Business Combination to be Used in Research and Development Activities: A Focus on Software, Electronic Devices, and Pharmaceutical Industries* (New York: American Institute of Certified Public Accountants, 2001) (The IPR&D Practice Aid) and *Valuation of Privately-Held-Company Equity Securities Issued as Compensation* (New York: American Institute of Certified Public Accountants, 2004). Statement of Financial Accounting Standards, *Fair Value Measurements*, refers to the IPR&D Practice Aid ((SFAS) No. 157, footnote 10). Even though this practice aid was written for specific industries, many auditors now view the procedures it describes as best practices across other industries.

Many auditors now expect valuation specialists to analyze management's key assumptions underlying a financial forecast used to develop fair value measurements. The IPR&D Practice Aid recommends this step as one that should normally be performed by the specialist. In addition, auditors may want valuation specialists to provide alternative valuation methodologies to evaluate the reasonableness of fair value conclusions, such as creating a business enterprise analysis of an acquired business.

As a result of stricter auditor independence rules and more scrutiny from accounting regulators, companies are frequently hiring valuation specialists to perform fair value measurements required by GAAP. Most companies hire outside valuation specialists when they do not have internal resources to perform fair value measurements. Auditors will perform their audit tests on the valuation work of the specialists, whether internal or external. These activities require new relationships and coordination among the preparers, auditors, and valuation specialists.

Valuation specialists who were trained to perform analysis under *fair market value* will need additional education and experience if they are to successfully practice in the world of fair value. First, they need to understand the nuances that differentiate fair value from fair market value. It is beyond the scope of this book to discuss the various standards of value, but there is ample published literature on the subject. Additionally, valuation practitioners need a thorough understanding of the relevant accounting literature.

Valuation specialists who enter this service line must be willing to work in an accounting environment, which presents challenges above and beyond those found in the theoretical valuation world. They must understand and use accounting standards and best practices that apply to fair value measurements, be able to work with auditors, and stay current with the relevant accounting literature.

STATEMENT OF FINANCIAL ACCOUNTING STANDARDS NO. 157, *FAIR VALUE MEASUREMENTS*

The FASB is the U.S. accounting standard setter for anyone reporting under GAAP. It is the standard setter because the U.S. Securities and Exchange Commission effectively recognizes the FASB for establishing GAAP applicable to publicly registered companies (subject to additional SEC requirements). Therefore, the fair value accounting literature issued by the FASB is effectively a regulatory accounting standard.

The FASB continues to move ahead with an agenda that includes fair value accounting. In 2006 it issued Statement of Financial Accounting Standards No. 157, *Fair Value Measurements* to take affect for financial statements issued for fiscal years beginning after November 15, 2007 and interim periods within those fiscal years.

SCOPE

SFAS No. 157 establishes a framework for making fair value measurements and requires additional disclosures about the measurements. The pronouncement does not establish any new areas in financial reporting where fair value accounting is required. Rather, it interacts with other accounting literature that requires or permits fair value measurements—with some exceptions (paragraph 2). Appendix D of SFAS No. 157 lists accounting pronouncements within the scope of the standard as of the issuance date. It amends 28 Opinions, Statements, Interpretations, and other official pronouncements previously issued by accounting standard setters and applies to another 39 pieces of accounting literature. Appendix 1.1 to this chapter lists the pronouncements impacted by SFAS No. 157. Appendix 1.2 lists the literature specifically excluded from application of SFAS No. 157.

FAIR VALUE

SFAS No. 157 provides a single authoritative definition of *fair value* for financial reporting. It defines fair value as:

> Fair value is 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.[7]

Fair value for financial reporting is one of five standards of value in the business valuation body of knowledge. The others are fair market value, investment value, intrinsic value, and fair value (under state statutes) in dissenting shareholder matters.

Fair value for financial reporting is different from fair market value. Characteristics of fair value in business combinations under GAAP and best practices include:

- Valuation methodologies specified in the accounting literature and/or acceptable to the auditors;
- Generally established on an asset-by-asset and a situation-by-situation basis;
- Typically a control value;
- The fair values of individual assets do not include a specific buyer's unique synergies unless such synergies are also those of ''market participants'';
- The additional purchase price paid in a business combination due to a synergistic component is recorded as goodwill and subsequently will be subject to impairment testing under SFAS No. 142;
- The total fair value of all assets acquired is always reconciled (adjusted) to the purchase price in a business combination or to a market participant's price;
- In the absence of quoted market prices, the technique used to estimate fair value would be the method producing a fair value best approximating quoted market prices;
- Includes tax amortization benefits;
- Transaction costs are not deducted;
- Considers the highest and best use of market participants in the principal (or most advantageous) market to establish the valuation premise (in-use or in-exchange);
- Considers a reporting entity's credit standing;
- Requires the use of market participant assumptions in accepting management's prospective financial information (projections); and
- Relies on but does not define active market.

Fair Value Hierarchy

In SFAS No. 157, the FASB specified a hierarchy approach to determining fair value. The pronouncement defines a hierarchy[8] in the development of fair value measurements as follows:

> *Level 1*. Inputs are observable market inputs that reflect quoted prices for identical assets or liabilities in active markets the reporting entity has the ability to access at the measurement date.
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> *Level 2*. Inputs are observable market inputs other than quoted prices for identical assets or liabilities in active markets the reporting entity has the ability to access at the measurement date. Level 2 inputs include the following:
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> - Quoted prices for similar assets or liabilities in active markets
> - Quoted prices for identical or similar assets or liabilities in markets that are not active; that is, a market 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 (e.g., some brokered markets) or in which little information is released publicly (e.g., a principal-to-principal market)

- Market inputs other than quoted prices that are directly observable for the asset or liability; for example, interest rates, yield curves, volatilities, and default rates that are observable at the commonly quoted intervals
- Market inputs that are not directly observable for the asset or liability but that are derived principally from or corroborated by other observable market data through correlation or by other means (market-corroborated inputs); for example, inputs derived through extrapolation or interpolation that are corroborated by other observable market data

Level 3. Inputs are unobservable market inputs; for example, inputs derived through extrapolation or interpolation that are not able to be corroborated by observable market data. Unobservable market inputs shall be used to measure fair value if observable market inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability. However, the fair value measurement objective remains the same; that is, an exit price from the perspective of a market participant (seller). Therefore, a fair value measurement using unobservable market inputs within Level 3 shall consider the assumptions that market participants would use in pricing the asset or liability, including assumptions about the amount a market participant (buyer) would demand to assume the risk related to the unobservable market inputs used to measure fair value. The reporting entity's own data used to develop the inputs shall be adjusted to exclude factors specific to the reporting entity if information is available that indicates that market participants would use different assumptions.

Entry Price Versus Exit Price

SFAS No. 157 describes fair value from the perspective of an exit (sale) price rather than an entry (purchase) price.[9] The price is determined based on the amount required to exchange the asset or liability in an orderly transaction between market participants. Exchange means to sell the asset or transfer the liability at the measurement date. An orderly transaction assumes exposure to the market for a period prior to the measurement date to allow for marketing activities that are usual and customary. An exit price is based on a hypothetical transaction from the perspective of a market participant who holds the asset or owes the liability. Therefore, the objective is to determine the price that would be received to sell the asset or paid to transfer the liability at the measurement date, which makes it an exit price.

Principal (or Most Advantageous) Market

The exit price is to be considered from the perspective of market participants in the principal (or most advantageous) market for the asset or liability.[10] A fair value measurement is based on a transaction assumed to occur in the principal market for the asset or liability. The principal market is the market with the greatest volume and level of activity for the asset or liability. The most advantageous market is the market that would provide the highest price for an asset and the lowest for a liability. The principal market trumps the most advantageous market. If there is a principal market for the asset or liability, the fair value measurement shall represent the price in that market (whether that price is directly observable or otherwise determined using a valuation technique), even if the price in a different market is potentially more advantageous at the measurement date.

Transaction Costs

The pronouncement states the price shall not be adjusted for transaction costs because transaction costs are not an attribute of the asset or liability.[11] They are specific to the transaction and represent the incremental direct costs to sell the asset or transfer the liability. However, any transportation costs are included in the fair value measurement.

Market Participants

SFAS No. 157 defines market participants for purposes of fair value measurements.[12] They are buyers and sellers in the most advantageous market for the asset or liability. Market participants are also:

- Independent of the reporting entity
- Knowledgeable (having all relevant information, including obtaining information through usual and customary due diligence)
- Able to transact
- Willing to transact (motivated but not compelled)

Highest and Best Use of an Asset

A fair value measurement of an asset assumes the highest and best use of the asset from the perspective of market participants, regardless of how the company actually intends to use it.[13] It also requires considering that the use of the asset is:

- Physically possible
- Legally permissible
- Financially feasible

Highest and best use is based on the use of the asset and generally results in maximizing the value. As such, the valuation premise may be either:

- *In-use*, which would provide maximum value through its use in combination with other assets as a group, such as a group of nonfinancial assets
- *In-exchange*, which would provide maximum value on a stand-alone basis, such as some financial assets

Importantly, the fair value of an asset in-use is determined based on the use of the asset together with other assets as a group (consistent with its highest and best use from the perspective of market participants), even if the asset that is the subject of the measurement is aggregated (or disaggregated) at a different level for purposes of applying other accounting pronouncements. This requirement may result in different aggregation assumptions from those used for impairment analyses under SFAS No. 142 or SFAS No. 144.

Applicability to Liabilities

For a liability, a fair value measurement assumes a transfer of the liability to market participants. For the determination of price related to the transfer of a liability, nonperformance risk must be considered and must be the same before and after the assumed transfer. Nonperformance risk is the risk of not fulfilling the obligation and includes (but may not be limited to) the reporting entity's own credit risk.[14]

Initial Recognition

When an asset is acquired or a liability is assumed in an exchange transaction, the transaction price represents an *entry price* to acquire or assume. By contrast, fair value measurement after acquisition or assumption is a function of the hypothetical price to sell the asset or paid to transfer the liability and is thus an *exit price*.[15]

Valuation Approaches: Market, Income, and Cost

SFAS No. 157 also discusses that the valuation techniques used to measure fair value should be consistent with the market approach, income approach, and cost approach.[16] The measurement objective is to use a valuation technique (or a combination of techniques) appropriate for the circumstances but maximizing the use of market inputs.[17]

Fundamentally, value is a function of economics and is based on the return on assets. The cost approach represents the things owned or borrowed. The income approach quantifies the return these assets can be expected to produce. The market approach merely reflects the market's perceptions of the things owned and borrowed or their expected returns.

For the determination of fair value measurement, the *cost approach* is based on the current replacement cost—the amount that at the measurement date would be required to replace the service capacity of the asset. It is based on the cost to a market participant to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence whether physical, functional, or economic.

The *income approach* uses valuation techniques to convert future amounts to a single present amount and is based on the value indicated by current market expectations about those future amounts. Although SFAS No. 157 says it does not apply to SFAS 123R (accounting for employee stock options and other share-based payments), SFAS No. 157 still includes present value techniques such as option-pricing models, binomial models, and the multiperiod excess earnings method.[18] Importantly, present value techniques originally presented by the FASB in Statement of Financial Accounting Concepts No. 7 have been included in SFAS No. 157 as Appendix B. This means those present value techniques are now Level A GAAP.[19] Appendix B of SFAS No. 157 discusses two methods for present value calculations:

1. Discount rate adjustment technique, *which is the traditional method whereby the denominator incorporates all risk elements related to the single cash flow being discounted*
2. Expected present value technique, *which is a function of the probability weighted average of all possible cash flows discounted at a risk-free rate. There are two methods*:
   a. *Adjusting the expected cash flows for systematic (or market) risk*
   b. *Not adjusting the expected cash flows for systematic risk, but instead including the risk adjustment in the discount rate*[20]

The *market approach* uses prices of market transactions involving identical or similar assets or liabilities. Remember here the fair value hierarchy: Level 1 is identical assets or liabilities and Level 2 is similar assets or liabilities. Therefore, the market approach may be either a Level 1 or Level 2 determination. Further, matrix pricing is considered consistent with the market approach. This applies to debt securities that do not rely exclusively on quoted prices for the specific securities, but rather rely on the securities' relationship to other benchmark quoted securities.

Inputs: Observable and Unobservable

Inputs refer broadly to the assumptions that market participants would use in pricing the asset or liability and can be of two types:

- *Observable inputs* are based on assumptions market participants would use and be independent of the reporting entity
- *Unobservable inputs* are based on the entity's own assumptions about the assumptions market participants would use based on the best available information[21]

Fair value measurements require maximizing observable inputs and minimizing unobservable inputs.

Active Market

The FASB has provided the following, rather vague, definition of active market:

> 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.[22]

As stated previously, Level 1 inputs are observable market inputs that reflect quoted prices for identical assets or liabilities in active markets.[23] In explaining its reasoning for referencing quoted market prices, the FASB cited paragraph 57 of SFAS No. 107:[24]

> The Board concluded that quoted market prices provide the most reliable measure of fair value. Quoted market prices are easy to obtain and are reliable and verifiable. They are used and relied upon regularly and are well understood by investors, creditors, and other users of financial information. In recent years, new markets have developed and some existing markets have *evolved from thin to active markets*, thereby increasing the ready availability of reliable fair value information (emphasis added).
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> Further, the FASB affirmed:
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> . . . that its intent was not to preclude adjustments to a quoted price if that price is not readily available or representative of fair value, noting that in those situations, the market for the particular asset or liability might not be active. To convey its intent more clearly, the Board clarified that *in those situations, the fair value of the asset or liability should be measured using the quoted price, as adjusted, but within a lower level of the fair value hierarchy* (emphasis added).[25]

While it is clear that the FASB recognizes the distinction between a thin and an active market, it chose not to provide a clear definition of active market. While the literature fails to provide a specific definition or objective measures for determining whether a market is an active market, it would seem an active market would take into consideration the following:

1. Narrow range for bid/ask prices
2. Homogeneous asset
3. Significant trading volume
4. Liquid (obvious, but needs to be said)
5. Observable (again, obvious)
6. Level of activity. A mathematically related definition would speak to bid/ask spreads, volume of activity compared to total float or shares outstanding; that is, an active market could handle a certain volume with a limited impact on price given a limited time frame.

Whether a market is sufficiently active to satisfy the derivation of price deemed ‘‘quoted price’’ will be a matter of judgment and will likely vary from reporting unit to reporting unit.

SUBSEQUENT EVENTS

In an effort to obtain the most relevant price available, even if it is after the measurement date, the FASB is allowing subsequent events to determine such price.[26]

As the Board observes, in some cases significant events might occur after the close of a market but before the measurement date, which will defeat the previously determined quoted price such that it might not be representative of fair value at the measurement date. Examples given include principal-to-principal transactions, brokered trades, or announcements. As a result, the FASB stated:

> . . . the reporting entity should not ignore information that is available at the reporting date (for example, a large change in the price in another market after the close of the principal market in which the asset or liability trades). The Board agreed that entities should establish and consistently apply a policy for identifying those events that might affect fair value measurements. However, if a quoted price is adjusted for new information, the fair value measurement is a lower level measurement.[27]

SECURITIES OWNED AS AN ASSET AND BLOCKAGE DISCOUNTS

The FASB focused on securities owned as an asset and the unit of account (paragraphs C79–80). It considered whether the unit of account for a block position that trades in an active market is an individual unit or a block. The fair value measurement price consequently would be a function of the price either reflecting or not reflecting the blockage factor (generally, a depression of value resulting from the size of the position traded). After considering its own previous pronouncements on this issue (principally SFAS Nos. 107, 115, 124, 133 and 140) and many comments from users and providers, the FASB decided to not allow blockage adjustments.

> In particular, the Board emphasized that when a quoted price in an active market for a security is available, that price should be used to measure fair value without regard to an entity's intent to transact at that price. Basing the fair value on the quoted price results in comparable reporting. Adjusting the price for the size of the position introduces management intent (to trade in blocks) into the measurement, reducing comparability.[28]

Therefore, SFAS No. 157 precludes the use of blockage discounts in fair value measurements and eliminates the exceptions of using blockage as provided in previous pronouncements (i.e., SFAS Nos. 107, 115, 124, 133, and 140). The unit of account for an instrument that trades in an active market is the individual trading unit.

Specific terms used in SFAS No. 157 are defined in Appendix 1.3.

RESTRICTED STOCK

The fair value of restricted stock must be determined based on whether market participants would consider the effect of the restriction. For example, a publicly traded stock restricted under Rule 144 or similar rules of the SEC would be adjusted to reflect such restrictions if the restriction is an attribute of the security and would transfer to market participants.[29]

ACADEMIC RESEARCH ON THE RELEVANCE OF FAIR VALUE ACCOUNTING

During the 1980s and 1990s, researchers conducted numerous empirical studies on the relevance of fair value accounting. The timing coincided with the public debate on the appropriate accounting standard for financial instruments. The FASB had added this topic to its agenda in 1986, and the subject later became controversial. Financial institutions opposed a change requiring them to account for their financial assets at fair value. Alternatively, banking regulators and others claimed the accounting standard for financial instruments at the time did not provide users with relevant information, and changes to the standards were necessary. Proponents of fair value accounting argued that assets, liabilities, and earnings based on fair values, rather than on historical costs, provided more relevant information to users. Former SEC Chairman Richard Breeden testified in 1990 before the U.S. Senate's Committee on Banking, Housing, and Urban Affairs, saying he believed that market-based data is the most relevant financial information. He also advocated a move to fair value accounting for all public companies and financial institutions. (The debate on fair value accounting continues even today.)

In 1990 and 1991, the FASB issued two accounting standards that focused on information disclosures of financial instruments: SFAS No. 105, *Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk,* and SFAS No. 107, *Disclosures about Fair Value of Financial Instruments*. In 1993, the FASB issued SFAS No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, which changed how firms accounted for and reported on securities they held for investment. The firms most affected by these accounting standards were financial institutions such as banks and thrifts. SFAS No. 115 required firms to measure the fair values of financial instruments that were to be traded or available for sale. The standard made some changes to debt securities but did not address all of the financial reporting issues. Under SFAS No. 115, banks and thrift institutions report the fair values of these financial instruments on their balance sheets and gains or losses from the change in fair values in their income statements.

Financial disclosures required by banking regulators and accounting standard setters provided academic researchers with rich data for empirical studies on the relevance of fair value accounting to investors. The research primarily explored two areas. First, researchers examined the association between the stock prices of financial institutions and the net assets of those firms when their financial instruments were measured at fair value. Second, studies tested the relation between investors' gains and losses from owning bank stocks and the banks' own profits and losses using the securities' fair values.

Research using bank and thrift data revealed that accounting for financial instruments at their fair values rather than historical costs improves the relevancy of financial reporting. Selected research on the relevancy of fair value accounting is described as follows.

BANKS: BALANCE SHEET RELEVANCE

A journal article by Mary E. Barth (the Barth Study)[30] studies the relevancy of fair value accounting to investors. It examined two different accounting measurements, historical cost and fair value, on the same financial statement components. Prior research had not found strong evidence on the relevance of fair value accounting. Researchers argued that management errors in estimating the fair values of assets were the primary cause for earlier findings. These earlier findings were based on studies that examined multiple industries and cross-sectional differences, which may have led to findings of weak evidence.

In contrast, the Barth Study examined the relevance of fair value accounting in a single industry: banking. The study investigated how financial-instrument assets measured at fair value and the related securities gains and losses are reflected in bank stock prices compared with historical cost measurements, to determine which is more relevant to investors for valuing bank stocks. The Barth Study examined U.S. banks whose financial data appeared on the 1990 Compustat Annual Bank Tape. The financial statement data covered periods from 1971 to 1990. The investment assets in the banks in this study averaged about 15% to 20% of total assets. The average differences between historical cost and fair value were large: 37% of the book value and 57% of the market value of equity.

The Barth Study showed that financial-instrument assets measured at fair values provide statistically significant explanatory power over historical costs in the share prices of banks. The study also found that the historical costs of financial instruments provide no significant explanatory power incremental to fair values. The Barth Study concluded that using fair values to measure financial instruments appeared to be relevant to investors in valuing bank equities.

BANKS: INCOME STATEMENT RELEVANCE

The Barth Study found inconsistent results on securities gains and losses. The significance of any explanatory power of securities gains and losses based on fair value measurements beyond historical costs depended on the statistical model used. Models that offered explanatory power were not robust. Some models revealed that fair values offered no statistically significant explanatory power. However, historical costs always provided explanatory power beyond fair values.

Barth argued that the evidence suggested that the inability of fair values to offer any incremental explanatory power was a result of management errors in estimating the securities' fair values. (Valuation errors are still a principle argument of those who are generally opposed to fair value accounting.) Measurement errors are a larger percentage relative to securities gains and losses than they are to the securities fair values, causing a greater relative impact. Barth acknowledged this argument was unverifiable. The Barth Study concluded that using fair values to measure gains and losses of financial instruments did not appear to be relevant to investors in valuing bank equities.

In contrast, a journal article by Anwer S. Ahmed and Carolyn Takeda (the Ahmed/Takeda Study)[31] studied the same issues as the Barth Study but controlled for the effects of interest rate sensitivity on other assets and liabilities (on-balance sheet). The Ahmed/Takeda Study found securities gains and losses using fair values have incremental explanatory power over historical costs. These findings suggest the inconsistent results in the Barth Study may not be attributed to securities' fair value measurement problems and arguably offer evidence that fair values to measure gains and losses are relevant to investors in valuing bank stocks.

CLOSED-END FUNDS: BALANCE SHEET AND INCOME STATEMENT RELEVANCE

A journal article by Thomas J. Carroll, Thomas J. Linsmeier,[32] and Kathy R. Petroni (the Carroll et al. Study)[33] studied a sample of 143 closed-end funds using data from 1982 to 1997. They argue that closed-end funds offer better evidence on the relevance of fair value accounting than other financial instruments. One reason the authors offer is that substantially all of the assets appearing on the financial statements of funds are reported at their fair values. (Liabilities in the funds are negligible.) The Carroll et al. Study also argues that the broader types of investments owned by funds offers better evidence than other financial instruments. This data allowed the researchers to perform additional tests on usefulness based on varying degrees of *reliability* of fair value measurements.

The Carroll et al. Study found a statistically significant association between stock prices of the funds and the funds' investments when they were measured with fair values after controlling for historical costs. It also found a significant relation between stock returns and the investment gains and losses. The research suggests that securities measured at fair value are relevant to investors in valuing stocks of closed-end funds.

The authors of the Carroll et al. Study also tested their hypothesis across different fund types and compared the results to one another. Tests included funds with publicly held equities from G7 countries and those with equities other than those publicly held from G7 countries. The results across all fund types showed a statistically significant association between fund stock prices and the fund investments using fair values. The Carroll et al. Study argues that the findings suggest the need to express all securities at their estimated fair values, including those that are traded in thin markets, such as private or non-G7 markets.

ENDNOTES

1. Michael A. Crain, CPA/ABV, ASA, CFA, CFE, is a contributing author to this chapter. Crain is Managing Director of The Financial Valuation Group in Ft. Lauderdale, Florida, and Chair of the American Institute of Certified Public Accountants Business Valuation Committee.

2. Financial Accounting Standards Board, FASB Project Update, *Conceptual Framework—Joint Project of the IASB and FASB*, Objectives, Revisions: December 1, 2006, www.fasb.org/project/conceptual-framework.shtml.
3. Ibid., and Financial Accounting Standards Board, Financial Accounting Series, Preliminary Views, *Conceptual Framework for Financial Reporting: Objective of Financial Reporting and Qualitative Characteristics of Decision-Useful Financial Reporting Information*, July 6, 2006.
4. Presentation by FASB Chairman Robert H. Herz to the American Institute of Certified Public Accountants' National Conference on Current SEC and PCAOB Reporting Developments, December 6, 2005.
5. Alternatively, chartered accountants in some other countries.
6. The authors thank Charles Morris, CFA, of Morris Investment Counsel, Atlanta, GA, for providing the data used to prepare this graphic.
7. Financial Accounting Standards Board, Statement of Financial Accounting Standards No. 157, *Fair Value Measurements* (2006), at 5.
8. Ibid., at 22–31.
9. Ibid., at 7.
10. Ibid., at 8.
11. Ibid., at 9.
12. Ibid., at 10–11.
13. Ibid., at 12–14.
14. Ibid., at 15.
15. Ibid., at 16.
16. Ibid., at 18.
17. Ibid., at 21.
18. Ibid., at 18.b.
19. Accounting standard setters have classified accounting pronouncements and other publications into a hierarchy (or levels).
20. Financial Accounting Standards Board, Statement of Financial Accounting Standards No, 157, *Fair Value Measurements,* (2006), Appendix B.
21. Ibid., at 21.
22. Ibid., at 24.
23. Ibid., at C66.
24. Ibid., at C66.
25. Ibid., at C68.
26. Ibid., at C70.
27. Ibid.
28. Ibid., at C79.
29. Ibid., at A28·A29.

30. Barth, Mary E, ‘‘Fair value accounting: Evidence from investment securities and the market valuations of banks,’’ *The Accounting Review* 69 (January 1994), pp. 1–25.
31. Ahmed, Anwer S., and Carolyn Takeda, ‘‘Stock market valuation of gains and losses on commercial banks’ investment securities: An empirical analysis,’’ *Journal of Accounting & Economics* 20 (1995), pp. 207–225.
32. Thomas J. Linsmeier was appointed as a member of the Financial Accounting Standards Board in 2006.
33. Carroll, Thomas J., Thomas J. Linsmeier, and Kathy R. Petroni, ‘‘The reliability of fair value versus historical cost information: Evidence from closed-end mutual funds,’’ *Journal of Accounting, Auditing and Finance,* 18 (1) (2003), pp. 1–24.

Appendix 1.1

References to APB and FASB Pronouncements (FASB SFAS No. 157, APPENDIX D)

D1. This appendix lists APB and FASB pronouncements existing at the date of this Statement that refer to fair value. Those pronouncements that are amended by this Statement are indicated by an asterisk.

1. Opinion 18, *The Equity Method of Accounting for Investments in Common Stock*
2. Opinion 21*, *Interest on Receivables and Payables*
3. Opinion 28*, *Interim Financial Reporting*
4. Opinion 29*, *Accounting for Nonmonetary Transactions*
5. Statement 13*, *Accounting for Leases*
6. Statement 15*, *Accounting by Debtors and Creditors for Troubled Debt Restructurings*
7. Statement 19*, *Financial Accounting and Reporting by Oil and Gas Producing Companies*
8. Statement 23, *Inception of the Lease*
9. Statement 28, *Accounting for Sales with Leasebacks*
10. Statement 35*, *Accounting and Reporting by Defined Benefit Pension Plans*
11. Statement 45, *Accounting for Franchise Fee Revenue*
12. Statement 60*, *Accounting and Reporting by Insurance Enterprises*
13. Statement 61, *Accounting for Title Plant*
14. Statement 63*, *Financial Reporting by Broadcasters*
15. Statement 65*, *Accounting for Certain Mortgage Banking Activities*
16. Statement 66, *Accounting for Sales of Real Estate*
17. Statement 67*, *Accounting for Costs and Initial Rental Operations of Real Estate Projects*
18. Statement 68, *Research and Development Arrangements*
19. Statement 84, *Induced Conversions of Convertible Debt*
20. Statement 87*, *Employers' Accounting for Pensions*
21. Statement 98, *Accounting for Leases*
22. Statement 106*, *Employers' Accounting for Postretirement Benefits Other Than Pensions*

23. Statement 107*, *Disclosures about Fair Value of Financial Instruments*
24. Statement 114, *Accounting by Creditors for Impairment of a Loan*
25. Statement 115*, *Accounting for Certain Investments in Debt and Equity Securities*
26. Statement 116*, *Accounting for Contributions Received and Contributions Made*
27. Statement 124*, *Accounting for Certain Investments Held by Not-for-Profit Organizations*
28. Statement 126, *Exemption from Certain Required Disclosures about Financial Instruments for Certain Nonpublic Entities*
29. Statement 133*, *Accounting for Derivative Instruments and Hedging Activities*
30. Statement 136*, *Transfers of Assets to a Not-for-Profit Organization or Charitable Trust That Raises or Holds Contributions for Others*
31. Statement 138, *Accounting for Certain Derivative Instruments and Certain Hedging Activities*
32. Statement 140*, *Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities*
33. Statement 141*, *Business Combinations*
34. Statement 142*, *Goodwill and Other Intangible Assets*
35. Statement 143*, *Accounting for Asset Retirement Obligations*
36. Statement 144*, *Accounting for the Impairment or Disposal of Long-Lived Assets*
37. Statement 146*, *Accounting for Costs Associated with Exit or Disposal Activities*
38. Statement 149, *Amendment of Statement 133 on Derivative Instruments and Hedging Activities*
39. Statement 150*, *Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity*
40. Statement 153, *Exchanges of Nonmonetary Assets*
41. Statement 156*, *Accounting for Servicing of Financial Assets*
42. Interpretation 9, *Applying APB Opinions No. 16 and 17 When a Savings and Loan Association or a Similar Institution Is Acquired in a Business Combination Accounted for by the Purchase Method*
43. Interpretation 23, *Leases of Certain Property Owned by a Governmental Unit or Authority*
44. Interpretation 24, *Leases Involving Only Part of a Building*
45. Interpretation 45*, *Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others*
46. Interpretation 46 (revised December 2003), *Consolidation of Variable Interest Entities*
47. Interpretation 47, *Accounting for Conditional Asset Retirement Obligations*
48. Technical Bulletin 84-1, *Accounting for Stock Issued to Acquire the Results of a Research and Development Arrangement*
49. Technical Bulletin 85-1, *Accounting for the Receipt of Federal Home Loan Mortgage Corporation Participating Preferred Stock*

50. Technical Bulletin 85-5, *Issues Relating to Accounting for Business Combinations*
51. Technical Bulletin 85-6, *Accounting for a Purchase of Treasury Shares at a Price Significantly in Excess of the Current Market Price of the Shares and the Income Statement Classification of Costs Incurred in Defending against a Takeover Attempt*
52. Technical Bulletin 86-2, *Accounting for an Interest in the Residual Value of a Leased Asset*
53. Technical Bulletin 88-1, *Issues Relating to Accounting for Leases*
54. FSP FAS 115-1 and 124-1, *The Meaning of Other-Than-Temporary Impairment and Its Application to Certain Investments*
55. FSP FAS 143-1, *Accounting for Electronic Equipment Waste Obligations*
56. FSP FAS 144-1, *Determination of Cost Basis for Foreclosed Assets under FASB Statement No. 15 and the Measurement of Cumulative Losses Previously Recognized under Paragraph 37 of FASB Statement No. 144*
57. FSP FAS 150-1, *Issuer's Accounting for Freestanding Financial Instruments Composed of More Than One Option or Forward Contract Embodying Obligations under FASB Statement No. 150*
58. FSP FAS 150-2, *Accounting for Mandatorily Redeemable Shares Requiring Redemption by Payment of an Amount that Differs from the Book Value of Those Shares under FASB Statement No. 150*
59. FSP FAS 150-3, *Effective Date, Disclosures, and Transition for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests under FASB Statement No. 150*
60. FSP FAS 150-4, *Issuers' Accounting for Employee Stock Ownership Plans under FASB Statement No. 150*
61. FSP FIN 45-2, *Whether FASB Interpretation No. 45 Provides Support for Subsequently Accounting for a Guarantor's Liability at Fair Value*
62. FSP FIN 46(R)-2, *Calculation of Expected Losses under FASB Interpretation No. 46(R)*
63. FSP FIN 46(R)-3, *Evaluating Whether as a Group the Holders of the Equity Investment at Risk Lack the Direct or Indirect Ability to Make Decisions about an Entity's Activities through Voting Rights Similar Rights under FASB Interpretation No. 46(R)*
64. FSP FIN 46(R)-5, *Implicit Variable Interests under FASB Interpretation No. 46*
65. FSP FIN 46(R)-6, *Determining the Variability to Be Considered in Applying FASB Interpretation No. 46(R)*
66. FSP FTB 85-4-1, *Accounting for Life Settlement Contracts by Third-Party Investors*
67. FSP AAG INV-1 and SOP 94-4-1, *Reporting of Fully Benefit-Responsive Investment Contracts Held by Certain Investment Companies Subject to the AICPA Investment Company Guide and Defined-Contribution Health and Welfare and Pension Plans*

Appendix 1.2

Pronouncements Excluded From SFAS No. 157

SFAS No. 157 does not apply under accounting pronouncements that address share-based payment transactions. These include:

1. APB Opinion No. 25, *Accounting for Stock Issued to Employees*
2. FASB Statement No. 123 (revised 2004), *Share-Based Payment*
3. FASB Statement No. 148, *Accounting for Stock-Based Compensation—Transition and Disclosure*
4. FASB Interpretation No. 44, *Accounting for Certain Transactions Involving Stock Compensation*
5. FASB Technical Bulletin No. 97-1, *Accounting under Statement 123 for Certain Employee Stock Purchase Plans with a Look-Back Option*

Appendix 1.3

Glossary

This glossary contains definitions of certain terms identified by the authors that are used in SFAS No. 157, *Fair Value Measurements.*

Term	**Definition**	**Paragraph**
Asset Group	An aggregation (grouping) of assets that forms the basis for applying the *in-use* premise.	Paragraph 6
Blockage Factor	The size of the position relative to trading volume	Summary
Entry Price	The price paid to acquire the asset or received to assume the liability	Paragraph 16
Exchange Price	The price in an orderly transaction between market participants to sell the asset or transfer the liability in the market in which the reporting entity would transact for the asset or liability, that is, the principal or most advantageous market for the asset or liability	Summary
Exit Price	The price that would be received to sell the asset or paid to transfer the liability	Paragraph 16
Fair Value	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	Paragraph 5
Fair Value Hierarchy	Prioritizes the inputs to valuation techniques used to measure fair value into three broad levels	Paragraph 22
Highest and Best Use	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	Paragraph 12
Level 1 Inputs	Quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date	Paragraph 24
Level 2 Inputs	Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly	Paragraph 28
Level 3 Inputs	Unobservable inputs for the asset or liability; the reporting entity's own assumptions about the assumptions that market participants would use in pricing the asset or liability	Paragraph 30

Term	Definition	Paragraph
Market Participants	Buyers and sellers in the principal (or most advantageous) market for the asset or liability that are: independent of the reporting entity; knowledgeable; able to transact; and, willing to transact (not forced)	Paragraph 10
Most Advantageous Market	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, considering transactions costs in the respective market(s)	Paragraph 8
Nonperformance Risk	The risk that the obligation will not be fulfilled	Summary
Observable Inputs	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	Paragraph 21
Orderly Transaction	A transaction that assumes exposure to the market for a period prior to the measurement date to allow for marketing activities that are usual and customary for transactions involving such assets or liabilities; it is not a forced transaction	Paragraph 7
Principal Market	The market in which the reporting entity would sell the asset or transfer the liability with the greatest volume and level or activity for the asset or liability	Paragraph 8
Unobservable Inputs	Inputs that reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset or liability developed based on the best information available in the circumstances	Paragraph 21