INTRODUCTION

This article summarizes comments of the Financial Accounting Standards Committee of the American Accounting Association (hereafter the Committee) on issues related to disclosure of nonfinancial performance measures. At the Committee's May 2001 meeting with the FASB, some Board members stated that an evaluation of academic research related to nonfinancial performance measures could be useful in the Board's future deliberations on performance reporting. The Committee took up the challenge and offers this overview of relevant academic research along with some preliminary recommendations on disclosure of nonfinancial performance measures. Comments in this article reflect the views of the individuals on the Committee and not those of the American Accounting Association.

REVIEW OF ACADEMIC LITERATURE RELATED TO NONFINANCIAL PERFORMANCE MEASURES

The Committee believes that nonfinancial performance measures should be judged against the same criteria as financial performance measures, namely, the characteristics of relevance, reliability, and comparability espoused in Statement of Financial Accounting Concepts No. 2, Qualitative Characteristics of Accounting Information. Accordingly, we structure the discussion of academic research on nonfinancial performance measures along these three dimensions.

Relevance

Various individuals and groups have called for greater disclosure of nonfinancial information by corporations (AICPA 1994; Boulton et al. 2000; Norton 2000; Eccles et al. 2001; Lev 2001). These individuals and groups argue that traditional financial measures have diminished relevance due to changes in business models said to reflect the "new economy." Additionally, critics raise concerns about the backward-looking nature...
of financial measures and suggest that financial measures provide little insight into a company's future performance. The demand for external reporting of nonfinancial performance measures also has been driven by companies' adoption of internal performance evaluation frameworks that incorporate nonfinancial measures, such as the Balanced Scorecard (Kaplan and Norton 1996). Investors have asked that external reporting include performance evaluation metrics used internally and that these measures be integrated into a discussion of the company's strategy. Frameworks such as PricewaterhouseCoopers' ValueReporting™ model (Eccles et al. 2001) exemplify such an approach.

There is abundant anecdotal evidence that some firms disclose nonfinancial performance information on a voluntary basis (see Eccles et al. [2001] and Upton [2001] for examples). In addition, professional financial analysts refer to nonfinancial measures in their company reports (Previts et al. 1994) and maintain that they use these measures to evaluate the long-term performance of a firm (Dempsey et al. 1997). Nonetheless, these results do not provide evidence on the underlying linkages between nonfinancial data, future financial performance, and equity values.

Studies take two approaches to examine these linkages and document the relevance of nonfinancial information: (1) establish a direct link between nonfinancial measures and equity values and (2) demonstrate a link between current nonfinancial measures and future financial information, indicating that nonfinancial information should be useful to investors and creditors. The first category typically is referred to as value relevance tests, while the second category is termed predictive ability tests. By necessity, value relevance and predictive ability studies examine industries in which nonfinancial performance measures are publicly available, which can raise concerns over small sample or self-selection biases. Research in this area, however, examines the relevance of a fairly diverse set of industries and nonfinancial measures, including measures related to airline performance statistics, customer satisfaction, air pollution, patents, quality, and market growth/penetration. The following subsections outline findings from this research, as well as results from research on management compensation and performance frameworks that also shed light on the relevance of nonfinancial performance measures.

Value Relevance Studies

Value relevance studies typically regress stock prices or market-to-book ratios on nonfinancial measures. Amir and Lev (1996) examine two nonfinancial measures used in the cellular telephone industry: total population in a service area, which is a measure of potential growth, and the ratio of subscribers to total population, which measures operating and competitive success. They find that both measures are positively associated with stock prices. They also find a complementary relation between nonfinancial and financial information, with the value relevance of financial measures such as

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1 Research examines whether the relevance of financial statement information to the capital markets has diminished over time (see, for example, Collins et al. 1997; Francis and Schipper 1999). Although the results of this research are mixed, there is no strong evidence of a decline in the value relevance of financial statement information, even if only new economy (e.g., high-technology) stocks are considered. Additionally, while some studies document a decline in the value relevance of financial information, there appears to be no major changes in the structure of the model mapping financial information into stock values (Core et al. 2002).
earnings and book value emerging only when combined with the nonfinancial information. Hughes (2000) documents a relation between measures of sulfur dioxide emissions and the market value of equity for electric utilities. He finds that this relation varies over time in response to changes in both environmental regulation and utilities' production processes. Hirschey et al. (2001) examine whether nonfinancial information on the quality of patents influences the relation between R&D expense and market value. They document a stronger relation between R&D expense and market value for firms with more successful patents, as indicated by nonfinancial information such as patent citation, median age of new patents, and closeness of patents to leading-edge research. Finally, Ittner and Larcker (1998a) study the relevance of a published customer satisfaction measure. This measure represents an aggregation of customers' responses to 15 questions related to overall customer satisfaction, confirmation of expectations, and comparison to ideal. Ittner and Larcker (1998a) find this measure to be positively related to market value, and that this relation varies by industry.

**Association or Causality?**

We note that the conclusions of the above studies rely on a regression methodology that measures "association" rather than "causation." Regression results tell us whether the nonfinancial measure is associated with stock prices, not whether investors actually use the measure—investors instead may use other information that is correlated with the nonfinancial measure. Additionally, these research studies often are descriptive in their approach and do not specify how nonfinancial measures should economically relate to financial performance and stock price. The lack of a theoretical prediction further reduces confidence in attributing observed relations to the specific nonfinancial performance measure. The inability of these studies to identify the underlying information used by market participants obviously raises concerns about the implications of the studies for standard setting.

Studies that examine stock returns surrounding the release of nonfinancial information can mitigate the causality problem; unfortunately, it is often difficult to identify the date such information first becomes available to the market. Additionally, companies often present financial information along with nonfinancial measures, making it difficult to isolate their separate effects. The Ittner and Larcker (1998a) study identified the release dates for one nonfinancial measure, specifically, customer satisfaction indices published by *Fortune* magazine. They tested the stock market reaction to this information and found that the magnitude of a firm's abnormal stock returns in the ten days surrounding the release of the customer satisfaction indices was positively associated with the magnitude of its customer satisfaction index. This finding provides support for the belief that investors react directly to the nonfinancial measures.

**Predictive Ability Studies**

The second category of studies investigates the ability of nonfinancial performance measures to predict future financial measures. By documenting an association between current nonfinancial measures and future financial measures, these studies imply that nonfinancial measures should be relevant to investors and creditors whose decisions are based on their expectations of future realizations of the financial measures. Using survey-based customer-level satisfaction data for a telecommunications company, Ittner and Larcker (1998a) document a statistically significant relation between customer satisfaction in one year and the next year's revenue and customer retention rates; however,
customer satisfaction data explain less than 5 percent of the variation in these metrics. The authors also use customer satisfaction measures aggregated at the branch-bank level to assess the relation between customer satisfaction and one-year-ahead performance measures such as revenues, expenses, margins, and return on sales. The authors characterize their findings as evidence of a relation between customer satisfaction and these financial measures. Similarly, Banker et al. (2000) examine the predictive power of customer satisfaction measures and report that measures of customer complaints and returning customers are leading indicators of revenues and profit in the hotel industry. In addition, they provide evidence that these measures provide information incremental to that in past financial performance.

Nagar and Rajan (2001) examine the relation between future sales and current nonfinancial (defects and on-time delivery) and financial (internal and external failure costs) measures of quality for a manufacturing company. They find that both nonfinancial and financial measures significantly predict one-quarter-ahead sales, however, the nonfinancial measures dominate the effects of financial measures when both are included in the regression. For four-quarter-ahead sales, both measures have explanatory power in a combined regression, suggesting that they complement each other. Behn and Riley (1999) also document an association between nonfinancial quality measures published for airlines and contemporaneous revenues, future revenues, and future operating income.

Other research investigates whether properties of nonfinancial performance measures enhance individuals' abilities to forecast future financial measures. Luft and Shields (2002) argue that nonfinancial measures often create a focus on the future, as opposed to the historical focus of financial measures. Further, they maintain that nonfinancial measures cause individuals to attend more closely to relations involving future financial measures and increase the accuracy of their predictions of these measures. In support of their beliefs, Luft and Shields (2002) find that individuals' forecasts of future profits are more accurate when individuals base their forecasts on the current percentage of defects in a production process (nonfinancial measure) rather than current rework and spoilage expense (financial measure).

Insights from Management Compensation Research

Research on the use of nonfinancial measures in management compensation supports insights drawn from the value relevance and predictive ability studies. The management compensation studies confirm that nonfinancial performance measures are both industry- and firm-specific. In addition to the obvious industry-specific nature of these measures, research in this area reports that firm-specific variables significantly affect the weight placed on nonfinancial measures in compensation contracts. Specifically, factors such as the length of the product development and life cycle, whether the firm follows an innovation or prospector strategy, and the level of precision of financial variables affect the weighting of nonfinancial variables in incentive compensation (Bushman et al. 1996; Ittner et al. 1997). These findings suggest that the usefulness of nonfinancial performance measures is not universal, depending instead on firm-specific characteristics. Thus, for some industries and firms, models predicting future financial performance may not include nonfinancial performance measures.

Integrated Financial/Nonfinancial Performance Framework

The firm-specific results of the management compensation literature, along with the complementary and conditional nature of the value of nonfinancial measures seen in value relevance and predictive ability studies, raise the issue of whether companies
Recommendations on Disclosure of Nonfinancial Performance Measures

should use an integrated framework to report financial and nonfinancial measures. Such an integrated framework could disclose specific nonfinancial performance measures and provide a description of the firm’s business model in the context of these measures and how these measures map into firm value. This approach underlies frameworks like Kaplan and Norton’s Balanced Scorecard (Kaplan and Norton 1996) and PricewaterhouseCoopers’ ValueReporting™ (Eccles et al. 2001). Research results document at least one benefit of such models. Specifically, Lipe and Salterio (2002) find that organizing performance measures according to the Balanced Scorecard categories helps users recognize redundancies among performance measures and adjust their assessments of performance for these redundancies.

However, researchers raise questions about whether corporate managers, let alone investors, can fully explicate models linking nonfinancial performance measures to firm value. For example, Banker et al. (2000) find that hotel managers did not focus on customer satisfaction measures prior to the incorporation of these measures into incentive compensation. Banker et al. (2000) argue that while managers knew of a relation between customer satisfaction and profitability, they did not understand either the timing or magnitude of the relation. Ittner and Larcker (1998b) report similar concerns based on their survey of senior quality executives. Their survey found that less than 55 percent of these executives could relate their quality measures directly to operational, productivity, or revenue improvements. Additionally, less than 30 percent could relate quality measures to accounting or stock returns. These findings raise questions about stock market participants’ ability to use nonfinancial information appropriately and about management’s ability to provide models that aid in this task.

Summary of Relevance Research Findings

Overall, studies examining the relevance of nonfinancial performance measures provide some support that these measures predict future financial variables and that analysts and other market participants use nonfinancial measures to value stocks. This literature provides evidence of both incremental and complementary relations between nonfinancial and financial measures in predicting future financial performance and suggests that the market takes some of these complementarities into account in stock valuation. Research also indicates that the market conditionally interprets nonfinancial information, taking into account firm-specific, industry, environmental, and regulatory factors. One interpretation of research results is that the value of nonfinancial measures is firm-specific and may best be conveyed in the context of a firm’s discussion of its strategy.

Reliability

Three questions are pertinent with respect to the reliability of nonfinancial performance measures:

- Are these measures reliable?
- Do users view these measures as reliable?
- Do users adjust for differences in the reliability of these measures?

Actual Reliability

In terms of assessing the actual reliability of nonfinancial performance measures, some evidence comes from the predictive ability tests described above. Specifically, if nonfinancial measures are subject to significant measurement error, then regression
analysis likely will fail to find a significant relation between nonfinancial measures and future financial performance. The fact that several studies find such a relation suggests that these measures possess at least some reliability.

Survey evidence from corporate executives, however, raises concerns about the actual reliability of nonfinancial performance measures. Corporate executives are in a good position to understand the reliability of these measures. Survey data from Wm. Schiemann and Associates, reported in Ittner and Larcker (1998b), indicate that corporate executives have concerns about the quality of nonfinancial information, particularly measures related to employee performance, community, environment, and innovation. These executives also perceive the quality of financial information to be higher than that of nonfinancial information. These findings suggest caution in assuming nonfinancial measures are especially precise.

**Users’ Perceptions of Reliability**

When considering whether users perceive nonfinancial measures as reliable, the value relevance tests discussed above provide some insight. The results of the value relevance studies support the notion that investors perceive nonfinancial performance measures to be at least minimally reliable because stock prices appear to reflect these measures. Assuming market efficiency, rational investors incorporate nonfinancial measures in their equity values only if these measures are both relevant and reliable predictors of future performance.²

The issue of market efficiency leads us to examine whether investors are able to assess the reliability of nonfinancial measures. To our knowledge, there is no direct evidence on this issue; however, research indicates that individual investors take reliability of information sources into account when using information. Specifically, investors adjust their reliance on information for the incentives (Hirst et al. 1995) and prior accuracy (Maines 1996; Williams 1996; Hirst et al. 1999) of information sources. Thus, investors’ use of nonfinancial performance measures likely depends on their perceptions of the reliability of the source of that information.³

A related issue is the effect of an external audit of nonfinancial performance on investors’ perceived reliability of this information. Research indicates that users generally consider audited information to be more credible than unaudited information (Libby 1979; Pany and Smith 1982; Johnson et al. 1983). Thus, if nonfinancial performance measure disclosures are audited, investors’ perceived reliability of and reliance on this information likely would increase. A recent study cautions about the practice of hyperlinking unaudited information with audited information on web sites. Hodge (2001) finds that such a practice leads individuals to misclassify unaudited information as audited and, accordingly, assign greater credibility to the unaudited information than individuals not receiving the information in hyperlinked format. Explicit “audited” and “not audited” labels attenuate such misclassifications. These findings indicate that clear

² Note that finding nonfinancial performance measures are value-relevant indicates only that some minimum level of reliability has been achieved. Whether the measures become more reliable if they are included in a formal external financial-reporting package, audited, standardized, or communicated in different fashions or formats remains an open issue.

³ Anecdotal evidence suggests that investors penalize companies for unreliable reporting of nonfinancial numbers and subsequent adjustments. For example, analysts expressed concerns about Hughes Electronics when they restated their customer base numbers and admitted to questionable prior practices in counting DirecTV subscribers (Pasztor 2002).
signals related to reliability may be needed in web-based reporting environments if companies hyperlink audited financial and unaudited nonfinancial information.

In summary, little direct evidence exists in the academic literature concerning the reliability of nonfinancial performance measures. Finding that some measures are value relevant and helpful in predicting future financial measures indicates nonfinancial measures possess a minimal level of reliability, but whether attestation services or other forms of reliability enhancement could affect the quality of nonfinancial performance measure reporting remains largely unexplored.

Comparability and Consistency

Anecdotal evidence indicates that nonfinancial performance measures voluntarily disclosed by corporations vary across company and time (Eccles et al. 2001; FASB 2001; Upton 2001). There is variety in both the types of measures reported and formats for reporting them. Such variety likely reflects, in part, the need to report measures that correspond to each company's unique (and evolving) strategy and business model. For example, the Balanced Scorecard Report (1999), states that CIGNA Property and Casualty changed the content of their balanced scorecards for six straight years and maintains separate, customized scorecards for each of 20 businesses.

Types of Measures Reported

With respect to variety in types of nonfinancial performance measures, experimental research finds that, when evaluating performance, individuals weight common measures across different business units more heavily than unique nonfinancial measures. Lipe and Salterio (2000) examined individuals' assessments of divisional performance evaluation measures based on the Balanced Scorecard. Financial measures were common across divisions, while measures related to customers, internal business processes, and learning/growth differed between divisions. Individuals' assessments of divisional performance more strongly reflected the common financial measures than the varied nonfinancial measures. These findings may stem from users' lack of a framework for understanding implications of the nonfinancial measures for performance; thus, they reverted to financial measures for which they have a framework and could directly compare across divisions.

Reporting Formats

Research also indicates that different formats for reporting financial performance measures can influence professional and nonprofessional investors' use of that information by affecting the transparency of information and explicitness of the links between performance measures. Hirst et al. (2002) document that the transparency with which financial statements present financial performance measures influences analysts' use of this information. They find that analysts made greater distinctions among banks of varying risk when a performance statement presented fair value information, compared to footnote presentation of this information. Similarly, Maines and McDaniel (2000) find that nonprofessional investors place more weight on unrealized gains and

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4 Based on an analysis of market risk disclosures, Hodder et al. (2001) document that mandated disclosures also vary significantly over time and across companies.

5 It is reasonable to question whether the companies are willing to disclose the business-level scorecards for competitive reasons and whether the corporate level data is informative due to its high level of aggregation.
losses on marketable securities when they are explicitly linked with a performance statement than when presented in footnotes or a nonperformance statement. These studies support the idea that the transparency of links among financial performance measures influences investors and that transparency of reporting nonfinancial performance measures is likely to be similarly important.

In summary, research suggests that investors' ability to use nonfinancial and financial information consistently across companies and time is impaired by noncomparability in measures or formats. Such noncomparability likely reduces the value of nonfinancial performance measures and may lead investors to focus primarily on financial measures for assessing performance.

CONCLUSIONS AND RECOMMENDATIONS

Overall, academic research suggests that nonfinancial performance measures are relevant for predicting future financial performance and valuing corporate equity. Additionally, there is some evidence that nonfinancial performance measures can enhance the value of financial measures due to interactive effects between the two. However, the type of measure that is relevant for equity valuation is context dependent, which becomes problematic if standard-setters' goal is to mandate a consistent set of required disclosures for all companies.

Research also indicates that nonfinancial performance measures possess at least some degree of reliability, and that having such information audited should increase investors' perceived reliability of those measures. Finally, research suggests that noncomparability among types and formats likely hampers investors' ability to use nonfinancial measures. There is a trade-off, however, between ease of comparability and having firms provide disclosures that reflect the economics of the firm and management's strategy for the firm. Requiring a common set of disclosures across firms does not allow users to evaluate the firm through the eyes of management or to evaluate the effectiveness of management's strategy. The issue of comparability brings to mind the required disclosure of segment data used for internal management purposes. Such an approach can lead to segments that are not directly comparable across companies, but provides insight into the management of each reporting company. Allowing companies to choose nonfinancial performance measures unique to their company likely will provide similar insights.

Given these conclusions, the Committee believes mandating a standard set of disclosures related to, for example, customer satisfaction, quality, and the like would not best serve investors. Rather, we believe that companies should be encouraged to provide such disclosures voluntarily. It is possible that such voluntary disclosures fall more under the purview of the SEC than that of the FASB. One avenue might be for the SEC to take an approach for disclosure of nonfinancial performance measures similar to the safe harbor approach for providing forward-looking information. Additionally, we believe that companies should be encouraged to experiment with new nonfinancial measures and models integrating financial and nonfinancial measures, under the umbrella of safe harbor rules.

Given the expertise of the FASB in corporate reporting and the fact that research suggests that nonfinancial information can increase the relevance of financial information, we conclude that the FASB should be involved in the process. We believe that the FASB can play a vital role in encouraging and perhaps organizing industry groups, such as those used for the Business Reporting Project, to develop informative and innovative approaches to nonfinancial performance measurement. Additionally, given the
FASB’s mandate related to financial reporting, we urge the FASB to investigate and encourage development of models and frameworks that enhance the relevance of financial performance measures via the inclusion of nonfinancial performance measures.

REFERENCES


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