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To Fair Value or Not to Fair Value: A Broader Perspective

Fair value is considered here with respect to the two primary objectives of financial statements proposed in the joint conceptual framework that is under development by the FASB and the IASB, namely (a) informativeness—to assist providers of capital in predicting, evaluating, and comparing the amounts, timing and uncertainty of future cash flows, and (b) stewardship—to assist in evaluating how efficient and effective managers have been in enhancing shareholders' value. More specifically, a comprehensive set of accounting measures and a set of corporate governance reforms intended to align corporate insiders' and auditors' behaviour and decisions with the interests of investors is outlined. Suggested reforms show how to present a mix of effectively historical quantifications, exit values, and the discounted values of future cash flows expected from the particularized use of combinations of assets within the firm. Additionally, the article describes how markets can be reformed in order to align the interests of the officers who prepare such accounts, and the auditors who certify them, with those of investors. These market-based reforms would require auditors to insure misrepresentations, and managers to take equity to induce truthful reporting. Also included is a radical extension to earlier proposals by the author, requiring an officer of the company to make the market in shares in a way that would place limits upon the value of the insider's private information.

Key words: Conceptual framework; Discounted cash flows; Fair value; Insurance; Measurement; Truthful reporting.

In September 2006, the FASB issued FAS 157, *Fair Value Measurements*. It addresses how companies should measure fair value when they are required to use a fair value measure for recognition or disclosure purposes under Generally Accepted Accounting Principles. FAS 157 establishes a common definition of fair value to be used throughout GAAP. In FAS 159 (2007), *The Fair Value Option for Financial Assets and Financial Liabilities*, the FASB attempts to mitigate some of the problems created by FAS 133 (1998), *Accounting for Derivative Instruments and Hedging Activities*, by granting firms the option to apply fair values.¹

On 13 November 2006, the International Accounting Standards Board (IASB) published for public comment a discussion paper setting out its preliminary views

¹ See also SFAC 7, *Using Cash Flow Information and Present Value in Accounting Measurements* (FASB, February 2000).

on providing consistency in the measurement of fair value, when already prescribed under existing International Financial Reporting Standards.²

This paper evaluates the usefulness of the fair value measurement principles spelled out in FAS 157, which the IASB has decided to use as the starting point for its own deliberations on the subject.³ The IASB plans to publish in 2008 an exposure draft of an IFRS on fair value measurements. Although both FAS 157 and the planned IFRS address only the principles of measurement and do not require expanded fair value measurements beyond existing standards, I extend my own discussion to address the desirability of the potential broadening of the requirements to include additional financial statement components beyond those for which a fair value measurement is already mandatory.

Since it is impossible to consider the usefulness of fair value measures in a narrow context, I feel compelled to engage the readers in a wider debate concerning the framework for financial statements as a whole. Clearly, such a debate can be meaningful only if it is guided by the objectives of financial statements as stipulated in the FASB's Conceptual Framework or as they are likely to be defined in the framework to be jointly developed by the FASB and the IASB. The two primary objectives that will guide my discussion are (a) informativeness—to assist providers of capital in predicting, evaluating and comparing the amounts, timing and uncertainty of future cash flows, and (b) stewardship—to assist in evaluating how efficient and effective managers have been in enhancing shareholders' value.⁴

The principles enunciated or proposed so far within the framework of the ongoing fair value measurements project have been crafted presumably in a manner consistent with the principles-based or objectives-oriented basis recommended by the SEC and agreed to by the FASB.⁵ Consequently, the usefulness of the proposed

² The IASB included a fair value option in IAS 39, *Financial Instruments: Recognition and Measurement* (December 2003). An IASB amendment restricting the fair value option was published in June 2005 under the title, *The Fair Value Option*.

³ In the discussion that follows, I operationalize the concept of 'usefulness' by referring to the objective of financial reporting in Chapter 1 of *Preliminary Views on an Improved Conceptual Framework for Financial Reporting: Objective of Financial Reporting and Qualitative Characteristics of Decision-Useful Financial Reporting Information* (FASB, 6 July 2006): 'the objective of general-purpose external financial reporting 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'.

⁴ Other objectives that might come to mind that I do not consider in this paper include the provision of information that informs tax policy and other governmental decision-making, and furnishing information about external benefits or costs conferred or imposed on other entities or peoples, such as environmental impacts. While the objectives I do focus on in this paper might also lead to information that contributes to these other alternative objectives, the latter are not the focus of my inquiry.

⁵ In July 2003, the staff of the Securities and Exchange Commission (SEC) submitted to Congress its *Study Pursuant to Section 108(d) of the Sarbanes-Oxley Act of 2002 on the Adoption by the United States Financial Reporting System of a Principle-Based Accounting System*. In March 2003, the FASB discussed the comments received on its own proposal on the subject and decided to pursue initiatives aimed at moving toward more objectives-oriented (principle-based) standards. An illuminating discussion of the distinction between principle-based and rule-based standards is provided in Bennett *et al.* (2006).

measures cannot be assessed independently of the desirability of moving to such a principles-based system. In a similar vein, the SEC Study (see note 5) states that ‘the revenue/expense view is inappropriate for use in standard-setting—particularly in an objectives-oriented regime’ (p. 30) and that ‘the FASB should maintain the assets/liability view in continuing its move to an objectives-oriented standard-setting regime’ (p. 42). The fair value measurement principles (henceforth FVMP) as well as the stated objective of requiring fair value measurement for a broader set of financial statements items appear to be largely consistent with the FASB’s agreement with this view, which gives priority to the definitions of assets and liabilities by defining the other elements (equity, revenues, expenses, gains and losses) in terms of changes in assets and liabilities and contends that analysing the assets and liabilities and their changes in a given arrangement is the most appropriate approach to setting financial reporting standards.⁶

The structure of this paper is as follows. The first section addresses the appropriateness of the primacy of an asset/liability approach to standard-setting. The usefulness of the FVMP is then evaluated in light of the criteria of relevance and reliability. Drawing heavily on the article, ‘Relevant Accounting’ (Ronen and Sorter, 1972), the paper provides alternative concepts of fair value measures and discusses how they can be applied within an overall framework for financial reports so as to improve the usefulness of the reports and their contribution to the efficiency of resource allocation. The paper continues with a discussion of the problems surrounding an effective implementation of these alternative concepts; essentially, the proposed system would not be incentive compatible—that is, under existing corporate governance mechanisms, the relevant players (boards of directors, CEOs, audit committees and compensation committees) would not find it in their self-interest to create the necessary conditions for implementation.

I then present a market-based reform based on a recent paper (Ronen and Sagat, 2007). Specifically, auditors would undertake to insure against losses suffered by shareholders as a result of restatements (as a first stage on the way to insuring any omissions or misrepresentations that occur in financial statements) and, in return, they would be immune from certain legal liability in civil litigation. As explicit insurers, their interests would be aligned with those of investors. Requiring insurance premiums to be publicized would introduce a signalling incentive to induce managers to improve the quality of their financial statements. Under such a scheme, I suggest principle-based standards and the broader framework would become both useful and reliable.

Two other reforms that would complement the framework are discussed. The first involves a change in the structure of managers’ compensation. If managers are made to purchase shares periodically (or are granted restricted stock as part of their compensation), such that the price they pay is randomly selected *ex post*, their incentives can be fine-tuned to induce truthful reporting. The second, which may seem radical, is that a corporate insider (such as the CEO or a director) would

⁶ FASB Response to SEC Study on the Adoption of a Principles-Based Accounting System (FASB, July 2004).

act as a market maker in the company's stock. The responsibility to announce bid and ask quotes that commit the insider to buy or sell gives rise to a price that reflects the insider's private information, thus disciplining accounting choices.

THE ASSET/LIABILITY APPROACH

The move to fair value measurement reflects the belief that a principal objective of financial statements, one derived from the two primary objectives mentioned above, is to measure the value of assets and liabilities in the balance sheet; the income statement would merely reflect the change in values of assets and liabilities during the accounting period. By contrast, the existing financial reporting system is skewed to what is non-euphemistically referred to as the 'historical cost principle' but perhaps more appropriately dubbed the 'realized transactions principle'.

Under the latter, the income statement is the primary focus, in that it summarizes the history of transactions consummated between the entity and input and output markets and the value added as a result of such transactions—accounting income. In this case, recording transactions and accruing future cash inflows and outflows gives rise to assets and liabilities in the balance sheet, the measurement of which is a byproduct of the 'realization' principle of revenue recognition and the principle of matching expenses against revenues. Such measurements clearly depart from fair values and have been pejoratively referred to as 'funny assets' (Beaumont, 2002).

By the same token, however, fair value measurements give rise to 'funny revenues and expenses'. Earnings are the byproduct of the fair value measures, and they are uninformative about future earnings and about value: presumably, value is already reflected in the balance sheet. As changes in value, earnings do not predict future value changes to the extent that value follows a random walk. On the other hand, the sequence, over time, of reported changes in values can be informative about business risk, as it makes possible the computation of return volatility. While under the realized transactions principle value is typically found through multiplying earnings by a price earnings multiple, under the fair value concept value is simply the reported fair value of net assets.

Critics of historical cost accounting claim that it is 'backward looking'. When revenues and expenses are properly matched, however, the system is in fact 'forward-looking'. Historical cost accounting purports to reflect value added by purchasing inputs, transforming them, and selling the output for more cash than expended in creating it. Although it does not report the value of the business, it facilitates its estimation because current profit margins typically predict future profit margins.

Which of the two approaches (balance sheet versus income statement) is superior depends on which better accomplishes the objectives of financial statements. Since they have distinct features as discussed above, the first question that comes to mind is why not offer both? Why not have fair value balance sheets and transaction-based income statements? Of course, to do this we have to eliminate the requirement that the balance sheet and income statement articulate. Although this does not

involve any sacrifice of information, apparently articulation is too ingrained in the accounting culture to be given up. Hence, we have to view the two approaches as mutually exclusive. If so, we need to compare the two. This comparison would be easier if we imagine the two approaches to be perfectly implemented. In that case, the asset/liability approach would yield the 'exact' value of the firm, whereas the income statement approach would yield an income number that, when multiplied by a constant (price-earnings ratio), would yield the same 'exact' value.⁷ That is, it would become a matter of indifference as to which approach is chosen. This of course is not helpful: the challenge is to compare two imperfect systems and to specify the informational inputs under either or a combination of the two (the latter subject to articulation) that maximizes the information content necessary to satisfy the objectives of informativeness and stewardship. This is the subject of the next section.

THE FAS 157 APPROACH

By necessity, the FVMP spelled out in FAS 157, the document about which the IASB has invited comments provides for imperfect, approximate measures of values. For example, it opts for an exit value measure defined (in para. 5) as 'the price that would be received to sell an asset or pay to transfer a liability in an orderly transaction between market participants at the measurement date'. The measures are derived based on the perspective of market participants that hold the assets or owe the liability in a hypothetical market. There are three levels of fair value measurements: Level 1 refers to cases in which the market prices for the identical assets or liabilities are readily available from active markets, Level 2 refers to cases in which hypothetical market prices must be estimated based on observable inputs, and Level 3 involves estimation based on unobservable inputs.⁸

Are these measures likely to be relevant and reliable? First consider reliability.⁹ Level 1 measures, derived as they are from current observed market prices,

⁷ Indeed, Fisher Black (1980) suggested that accountants should produce a number—permanent earnings—that is sufficient for forecasting future earnings.

⁸ Under FAS 157, Level 1 inputs are quoted prices (unadjusted) observed in an active market for identical assets and liabilities that the reporting entity has the ability to access on the measurement date (para. 24).

Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly (para. 28); these inputs include quoted prices for similar assets or liabilities in active markets (28a); quoted prices for identical or similar assets or liabilities in markets that are not active (28b); inputs, including observed interest rates and yield curves, volatilities, prepayment speeds, loss severities, credit risks, and default rates (see 28c); and inputs that are derived principally from or corroborated by observable market data by correlation or other means (28d).

Level 3 inputs are unobservable inputs for the asset or liability that reflect the reporting entity's own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk) (para. 30).

⁹ Defined in Concept 2 of the FASB's Conceptual Framework as 'the quality of information that assures that information is reasonably free from error and bias and faithfully represents what it purports to represent'.

can be objectively determined and hence would meet the threshold of reliability. Levels 2 and 3, however, raise concerns. Level 2 involves estimations of fair value based on predictable relationships among the observed input prices and the value of the asset or liability being measured. The degree of reliability one can attach to these derived measures would depend on the goodness of the fit between the observed input prices and the estimated value. Measurement errors and mis-specified models may compromise the precision of the derived estimates. Nonetheless, Level 2 is not as hazardous as Level 3. In the latter, unobservable inputs, subjectively determined by the firm's management, and subject to random errors and moral hazard, may cause significant distortions both in the balance sheet and in the income statement. Moreover, discounting cash flows to derive a fair value invites deception.

To illustrate the insidiousness of discounted cash flows valuation, consider the 'Interest Only Strip', shown as an asset in the balance sheets of specialty finance companies under FAS 140 (2000). This asset is simply the present value of a future stream of unrealized income, recorded as current income. And even though the prescribed rule is that the measure should 'reflect the reporting entity's own assumptions about assumptions that market participants would use in pricing the asset or liability' (FAS 157, para. 30), the valuation is highly subjective and acutely sensitive to changes in assumptions. It is extremely difficult, even for a well-intentioned auditor, to dispute and reject the projections of a manager wishing to improve the appearance of his financial statements.¹⁰ This potential for abuse is grave in light of the known conflict of interest between managers and shareholders. Under the existing corporate governance regime, managers do not have the incentives to present fairly. Research has shown that in equilibrium, and on average, managers' presentations will not be truthful (Ronen and Yaari, 2002).

Now consider the criterion of relevance. Since the fair value measurements under FAS 157 are based on exit values, they do not reflect the value of the assets' employment within the specific operations of the firm. In other words, they do not reflect the use value of the asset, so they do not inform investors about the future cash flows to be generated by these assets within the firm, the present value of which is the fair value to shareholders. Thus, these exit values fall short of meeting the informativeness objective of financial statements. In a similar vein, they do not do well in serving the stewardship function, as they do not properly measure the managers' ability to create value for shareholders.

Nonetheless, exit value measures have partial relevance. Specifically, they quantify the opportunity cost to the firm of continuing as a going concern, engaging in the specific operations of its business plan; the exit values reflect the benefits foregone by not selling the assets. Were we to have measures as well of the benefits of continued employment of the assets within the firm, investors could compare these benefits to the opportunity cost (the exit values) to gauge the firm's contribution as a going concern. Exit values also provide information that is helpful in assessing a certain aspect of the risk to which the firm is exposed. Namely, if the economic

¹⁰ See also Benston (2006).

environment worsens and the demand for the firm's products and services slackens, the firm can always fall back on its assets and sell them for the reported exit values. In other words, exit values measure the minimum value to shareholders under adverse circumstances. The higher the exit value, the smaller the loss the firm is exposed to when things go wrong. Unfortunately, exit value measures are of little use by themselves, absent the ability to compare them with the value of employing the assets within the firm; only in conjunction with use values will exit measures convey meaningful information about risk and opportunity costs.

In the following section, I briefly discuss a more comprehensive reporting framework that incorporates exit value measures in a way that enhances the relevance of financial reports. This framework is based on my work jointly with George H. Sorter decades ago (Ronen and Sorter, 1972). But while this framework enhances relevance, there would be a need to create corporate governance mechanisms that encourage honest and unbiased reporting. I describe these mechanisms below.

A COMPREHENSIVE REPORTING FRAMEWORK

The informativeness objective—facilitating the prediction of future cash flows and their magnitude, timing and uncertainty—is derived from investors' desire to predict future movements in market prices and identify situations in which there are discrepancies between actual prices and intrinsic or fundamental values. The latter are the risk-adjusted discounted value of prospective cash flows attributable to the firm. Such a calculation requires information about the future sequence of cash flows and the uncertainty surrounding them. However, the present accounting model does not explicitly deal with expectations about future cash flows or their associated risk. Ideally, therefore, accounting should (a) provide information useful for the prediction of cash flows, (b) provide information useful for assessing the risks of these flows, and (c) provide information about the realization of expectations. The last of these is important for assessing the reliability of expectations and the quality of managerial performance, as well as in facilitating the improvement of the forecasting process.

It is well established in a world of information asymmetry that the role of accounting is to convey information that the firm has a comparative advantage in providing (Ronen, 1981). Although future cash flows are determined by market forces, industry forces and the firm's own actions, the best source of information about these cash flows must be the firm itself. Moreover, only the firm's management has current knowledge of its specific decisions and plans. Hence, accounting would serve its role if management *honestly* communicated its own estimate of prospective cash flows through the accounting reports (see, e.g., Lorie and Niederhoffer, 1968; Jaffe, 1974; Givoly and Palmon, 1985; Seyhun, 1986; Rozeff and Zaman, 1988; Lakonishok and Lee, 2001).¹¹ How forecasts of cash flows should be communicated is of course a serious question. Management

¹¹ The qualifier 'honestly' may well seem wishful thinking at this point. I address corporate governance mechanisms to induce honest reporting below.

can legitimately protest that providing detailed forecasts may put the firm at a competitive disadvantage. Hence, a period of experimentation is required. As a first step, however, it is clear that no competitive advantage is compromised by summarizing the expected cash flows in the form of a single number—the present value of the expected cash flows—reflecting management’s subjective valuation of the firm. Even such a single measure would make reports more relevant to investors so long as it is unbiased; random forecasting errors of course cannot be avoided as a source of risk. A variety of risk measures are provided currently in financial statements, and the degree of uncertainty associated with these forecasts can also be required as part of the supplementary disclosures. Similar disclosures and the construction of diversified portfolios could mitigate and diversify away the risk associated with random forecasting errors. Biased forecasts present a far greater problem, but this can be dealt with by appropriate corporate governance mechanisms that induce honest reporting (see below).¹²

To make financial reports comparable, management’s forecasts should be discounted by a rate that is constant across firms and not by the firm’s specific cost of capital. A reasonable candidate is a market rate of return, such as the composite equity rate of return of all stocks available and computed by the Center of Research and Security Prices of the University of Chicago. Such a rate makes it possible to communicate the magnitude and timing of future cash flows with no consideration given to the specific risks, other than market risks, associated with cash flows. This is superior to discounting by a risk-adjusted discount that would deprive users of financial statements of the ability to separate the amount of expected flows from their associated risks. Because a market rate is used to discount the flows, the resulting present value can be described as the market-risk-determined (MRD) value of the firm.

Specific Advantage and Specific Residual

While the MRD value of the firm summarizes the magnitude and timing of future cash flows, it does not by itself communicate the risk associated with these cash flows. An important dimension of risk can be communicated through the exit values of assets and liabilities. This is where the FAS 157 exit value measures come into play. Useful insights into some aspects of risk can be gained by comparing the MRD value with the exit value of net assets (the difference between the exit values of assets and those of liabilities). This excess of MRD value over the exit value of net assets is referred to as the *specific advantage* of the firm. On the other hand, the difference between the firm’s MRD value and the exit (market) value of its equity is defined as the *specific residual*. The specific advantage reflects expected cash flows that cannot be realized unless the firm continues its specific operations and assumes the risks associated with them. The exit value of net assets represents

¹² Ideally, management could provide the probability distribution of cash flows. This, however, would be too radical a departure from the present model, albeit certain supplementary disclosures (e.g., the risk disclosure requirements imposed on financial institutions) already mark a rudimentary beginning in that direction.

cash flows that could be realized if the firm does not continue its specific operations and is largely independent of the risks associated with the specific operations.

The specific residual, on the other hand, reflects that portion of the expected flows that have not yet been captured by the market value of the firm's equity (a) because the market assigns a risk factor to the firm's expectations that is higher than the risk embedded in the market return or (b) because the market does not accept the magnitude of the cash flows as reflected in the MRD value, or (c) through a combination of these two.

Significant elements of risks can be assessed using these two differences. The larger the specific advantage, the higher the risk of realizing the expectations. For example, two firms with equal MRD value, where one firm has zero exit values (the specific-advantage firm) and the other has an exit value that equals the MRD value (the exit-value firm), are significantly different in their potential losses upon a failure of expectations to materialize. A total loss would ensue for the specific-advantage firm, but the latter's individual assets could be sold separately. And although exit values could also decline, this decline is likely to be smaller than the potential decline in the firm's MRD value, since positive exit values imply the existence of other uses for the firm's assets. Other users may demand the assets not only to replicate the firm's own business model but also to provide other products and services. Thus, the higher the proportion of specific advantage to MRD value, the greater the firm's exposure to a potential decline in its value.

A specific-advantage firm is exposed to more risk since it is restricted in its alternatives: its assets have zero exit values. Moreover, the specific-advantage firm's expectations may not be shared by anybody else, and their realization is less under the firm's control than is the case for exit-value firms. If the firm's expectations are not accompanied by exit values of its assets, the expectations apparently are held only by the firm itself. That is, although the MRD value may reflect only one firm's expectation, the assets' exit values represent the mean expectation of more than one entity. The variance associated with exit values (mean of expectations) is presumably smaller than that associated with expectations held by only one entity. Stated differently, to realize the portion of the firm's value that is not reflected in the exit value of the assets requires the existence of a future market for which no evidence may yet exist and which will be determined by factors that are not under the firm's control.

The exit value of equity reflects the capital market's evaluation of both the magnitude and the risks attached to the firm's expected cash flows. If investors accept management's forecasts and feel that the risk associated with the flows is correctly expressed through discounting by a market discount rate, then the exit value of the equity will equal the MRD value; if it is less, either the market does not fully accept the firm's expectations or it attaches a greater than market risk to these expectations. Thus, the larger the specific residual, the larger the risk that attaches to the firm's cash flows, regardless of which of these factors produce a divergence between the MRD value and the equity's exit value.

The specific residual and the specific advantage are incrementally informative. For example, a firm with a large specific advantage could at the same time have a

small specific residual (both relative to the MRD value). An innovative high-tech company such as Google may be such a firm. If demand for Google's services slackens, the options are few—it has a large specific advantage. On the other hand, the small specific residual implies that the market shares Google's forecasts and has validated them, as reflected in the prices of its securities.

Past Transactions and Events

Prospective cash flows and exit values alone would not fully satisfy the needs of either investors or management. To evaluate, audit and improve predictions of prospective cash flows, it is necessary also to communicate events that have occurred. This would allow users to evaluate management's performance and predictions, as well as to better predict and control future management performance, actions and policy. Unlike the manner in which past events are recorded under the current accounting model, however, data regarding past transactions should be separated into expected and unexpected components. This would help users evaluate the forecasts embedded in the MRD value of the firm in earlier periods, as well as the effectiveness of management. In addition, past events must be described not only in terms of historical cost but also in terms of their effect on exit values.

The Reports

The accounting reports under this framework would consist of a Balance Sheet and a Costs and Benefits Statement that is supported by two detailed statements: an income statement, which reports changes in the MRD value, and a Change in Asset Composition Statement, which reflects changes in the composition of assets and liabilities—an indication of risk.¹³

The Balance Sheet

The balance sheet would report Historical Cost, Exit Values, Specific Advantage, and Total Economic Value. It would distinguish among major groups of assets. Even though the specific advantage results from the joint operation of assets, it might be possible to attribute incremental specific advantages (albeit non-additive) to individual assets and liabilities.

As indicated, in addition to historical costs, exit value would be shown for individual assets. In the case of jointly operated assets, the exit value theoretically should be the amount for which the assets are sold in combinations that maximize proceeds from the sale.¹⁴ Exit values that are lower than historical costs result from the particularization of purchased assets (putting the asset to a specific use rather than selling it). For example, work in process may have a historical cost in excess of its exit value. The particularization of a fixed asset will typically produce exit values that are below the historical cost as of the date of purchase, but this may be offset later by fluctuations in exit values.

¹³ See Ronen and Sorter (1972) for details, where the Change in Asset Composition Statement is referred to as the Realization and De-Realization Statement.

¹⁴ This is consistent with the approach chosen in FAS 157.

The Costs and Benefits Statement

The two major determinants of the firm's value are the return (or magnitude of expected cash flows) and the risk associated with it. Thus, the benefits accruing to a firm should reflect both these dimensions. The benefits may accrue to a firm either through an increase in the size of expectations (due to the passage of time or the revision of expectations) or through a reduction in the risk or uncertainty associated with the expectations. Similarly, the cost to a firm represents either a reduction of the magnitude of expectations or an increasing risk, or both. This dual nature of benefits and costs is not adequately described through either economic income (the difference in wealth between two points in time) or accounting income under the current historical cost model. Economic income does reflect changes in the magnitude and in the timing of expected cash flows, the present value of which is wealth. It reflects changes in risk only through changes in the discount rate used. Moreover, it aggregates expectations and risk into one measure. That is, changes in risk are not reflected explicitly. Furthermore, economic income does not explicitly differentiate among the varying uncertainties associated with the composition of assets: it makes no difference whether the cash flows are expected to result from assets not yet acquired, from inventory that has not yet been manufactured or from accounts receivable that have not yet been collected. Yet the certainty of realizing cash flows from these different assets differs.

By contrast, accounting income is affected only to a minor degree by expectations and changes in expectations; it is concerned almost exclusively with realizations. Thus both economic income and accounting income describe different aspects of the benefits that accrue to the firm. Neither fully describes all benefits. A more complete description should reflect both expectations and changes in expectations as well as the pattern of realization and changes in this pattern. In the Costs and Benefits Statement, the benefits would be described as (a) the change in expectations (the MRD value, which consists of two elements—the passage of time, quantified by the imputed interest on the MRD value, and the revision of expectations as of the end of the period, based on information obtained during the year, most notably the unexpected events shown in the detailed supporting statements), and (b) changes in realizations: change in the composition of assets from more specific and therefore more risky assets to relatively less specific and therefore less risky assets (benefits) or vice versa (costs). Consider, for example, the conversion of inputs to outputs. If these conversions were expected, the MRD value would remain unchanged. Nonetheless, the conversion is likely a benefit to the firm: the exit value of finished goods, for instance, would generally be larger than the sum of the exit values of the inputs; it would be reported in the Costs and Benefits Statement as an increase in exit values. The risk inherent in selling output already manufactured is less than the risk surrounding expectations that require both manufacturing and selling.¹⁵ If changes in exit values are unexpected,

¹⁵ The final stage of realization of course is the conversion of output to cash. Hence it is important to report exit values of cash assets and other assets separately in the Change in Assets Composition Statement.

they may also lead to a change in the MRD value, which would be shown as a revision of expectations. Increases in exit values would be broken down into purchase gains (excess of exit value over purchase cost); value added, which reflects an increase in exit values resulting from operating activities; and the increase in the exit value of assets that appreciated, which does not result from operating activities. Under costs would be shown decreases in the exit value of assets that declined in value, reflecting an increase in risk¹⁶; and the purchase loss (excess of purchase price over exit value at the time of purchase). Another cost item is the imputed interest on the exit value of net assets; this amount represents opportunity costs—the returns forgone as a result of having held the assets, and it cannot be meaningfully added to the other costs.

Two subsidiary statements would furnish additional details in support of the benefits and costs presented in the Costs and Benefits Statement: the income statement and the Change in Assets Composition Statement.

The Income Statement

The income statement would provide historical cost data and economic income, showing changes in the MRD value. Both would be broken down into expected and unexpected components. Historical income would essentially be communicated in the same manner as is done currently: a record of market transactions. Under economic income, operating income would be zero, since output would be quantified at its exit value: sales inflow and outflow would equal each other, although they would be presented separately. The sales outflow would be composed of two components: the exit value of the output recognized at the time of conversion and an increment in the exit value up to the time of the sale. For each of these components, a distinction would be made between an increase in the value of the inputs and the value added. For historical cost income, interest revenue would be interest earned on interest-bearing assets, and interest expenses would be the interest accrued on interest-bearing obligations. For economic income, interest revenue would represent the market rate of return imputed on the total assets of the firm (including its specific advantage); the interest expense would represent the market rate of return imputed to the firm's liabilities. The net interest would represent the market rate of return imputed to the firm's MRD value of firm-value growth as a result of the passage of time. Finally, the revision of expectations would be a component of economic income.

The Change in Assets Composition Statement

This statement reports the conversion of assets from risky ones to less risky ones and vice versa. Conversions from specific advantage into exit values of non-cash assets and from the latter to exit values of cash assets are realization events.

¹⁶ This may or may not be associated with a decline in the MRD value of the firm. Indirectly, it may cause a revision of expectations to the extent it is unexpected. Such a revision would be reflected, as discussed, as part of the economic income in the Costs and Benefits Statement. If the decline was expected, the MRD value of the firm remains unchanged, in which case the decline in exit values is offset by an equal increase in the specific advantage.

De-realization events are conversions from less risky assets to more risky assets. These events include conversion from exit values of cash assets to exit values of non-cash assets and from exit values of non-cash assets to specific advantage. Conversion of specific advantage to exit values may be due to (a) value added, (b) holding gains and (c) purchasing activities of the firm. If unexpected these events may affect the value only through the revision of expectations, which is separately reported.

The communication of both expectations (MRD value) and exit values provides information useful to the assessment of risk and affords the means for highlighting the opportunity costs of both the entity and investors. At any given time, the exit value of the assets represents a universal opportunity cost (i.e., an opportunity cost that is independent of a particular manager's decision alternatives and hence is independently quantifiable). The exit value of the equity represents the opportunity cost to investors holding their securities. By communicating the MRD value, the firm makes possible the comparison of these opportunity costs with the expected benefits, that is, the level of expectations. The opportunity costs of continuing to operate the firm's assets over a period of time are measured as (a) the interest, or the alternative return, that could have been earned on the assets if separated from the firm, and (b) the decline in exit values of the assets over the period. Had the assets being sold initially, the imputed interest on the exit values could have been earned; further, the decline in exit values that occurred would have been avoided. These unavoidable opportunity costs can be compared with the benefits of having operated the firm, which consist of both realization benefits and increments in value.

It is also possible to focus on the economic benefits and costs alone without considering risk. Thus the economic income can be compared with the alternative returns. The economic income would consist of imputed interest on the total net assets (including the firm's specific advantage) plus the revision of expectations. The alternative returns—the benchmark against which economic income is compared—would be the imputed interest on the exit value of net assets.

The comparison of expected events with past events generates information that improves the ability of investors and managers to assess the reliability of future forecasts, as well as to evaluate past performance (thus fulfilling the stewardship objective) and predict future performance (thus fulfilling the informativeness objective). Comparison between forecasts and actual occurrences for one firm over time will make it possible to judge the reliability of these forecasts. Reporting the differences between forecasts and actual occurrences for all firms makes it possible to judge the comparative forecasting ability of different firms. These comparisons would indicate to investors the extent to which they could rely on different firms' forecasts and would provide managers with valuable feedback for improving their future forecasts. Furthermore, if forecasts and the achievement of forecasts are communicated for all firms, investors would be able to contrast the variability and measure the co-variability of a given firm's flows and expectations with the flows and expectations of other firms. The extent of such variability is an important input into efficient investment strategies.

The information provided by the proposed system would be more nuanced, more multidimensional, and therefore at first blush more difficult for investors to

use. However, one should keep in mind that it is far more difficult for investors to evaluate a company without the richer information set proposed. Furthermore, under my proposal, forecasts (MRD value), exit values and historical costs are provided separately such that the juxtaposition of the three makes it simpler to evaluate the prospects and the risk of the company¹⁷; in contrast, current financial statements mix together historical and implicit future values as well as fair values, thus making it difficult to assess the overall reliability of the statements.

Also, one of the objections to exit values as proposed by FAS 157 is that they are measured in the context of hypothetical markets where selling the assets is an alternative seldom used. This objection is valid if only exit values are to be communicated. Under the proposed framework, however, although the exit values would reflect a value, it would not be the only value. Moreover, exit values would be communicated not only for valuation purposes but also to provide a standard of comparison to facilitate the evaluation of risk and alternative returns. That is, exit values would serve as surrogates for many attributes relevant to information users.

Is the Proposed System Incentive Compatible?

Objections to discounted cash flow values typically centre on the necessarily subjective nature and hence lack of reliability of the estimates. Yet these problems are mitigated by also providing objective data that place the expectations in proper perspective. The proposed framework provides this context by communicating the MRD value of a firm only in conjunction with exit values and historical measures.

Nonetheless, moral hazard and hazards of misrepresentation may compromise the credibility of the expectations that form the MRD value. This is an especially serious problem in the early stages of implementation, when the sequence of forecasts and their realizations is not long enough to allow for reasonable evaluation of management's truthfulness. Corporate governance mechanisms now in place are not sufficient to elicit truthful reporting from managers.¹⁸ And although incentives for truthful reporting can be fine-tuned in a properly designed compensation package, the institutions responsible for creating such packages may not find it in their interest to do so. For example, one possible linear compensation scheme that could elicit truthful reporting would reward managers for higher magnitudes of expected cash flows as reflected in the MRD value of the firm, but penalize

¹⁷ Making forecasts part of the mandatory accounting systems proffers the advantage that forecasts would be available for all companies so as to facilitate comparability. Moreover, systematic periodic mandatory reporting of forecasts along with actual realizations allows ex-post monitoring of the forecasts' reliability. Also, note that FAS 157 sanctions forecasts as implicit in Level 3 fair value measurements.

¹⁸ Witness the accounting scandals during the early years of this decade and the vast literature addressing the failures of corporate governance (Baber *et al.*, 1995; Levitt, 1998; Bratton, 2002; Chaney and Philpich, 2002; Gordon, 2002; Brickey, 2003; Cox, 2003; Cunningham, 2003; Coffee, 2004) and cooking the books. These perceived failures ultimately gave birth to the Sarbanes-Oxley Act of 2002.

them for deviations from the forecasts embedded in the MRD value, as reflected in the unexpected components of the income statement and the Changes in Assets Composition Statement. However, boards of directors, acting as surrogates for shareholders, especially shareholders with short horizons, would lack incentives to design and enforce such a compensation scheme: short-horizon shareholders would be interested in exiting the firm at a profit (selling their stock) and hence would prefer managers to paint a falsely rosy picture of the firm's future prospects rather than tell the truth (Ronen and Yaari, 2002).

The system proposed is principle-based, and similar moral hazard concerns will plague any principle-based accounting model, even when it is restricted to the current framework. Specifically, so long as a principle-based system of accounting requires the reporting of particular items and accords managers and their auditors a significant degree of judgment in meeting those objectives, the flexibility so accorded will be abused, triggering costly litigation. A historical cost system is not free of judgments and estimations, and it would be especially vulnerable to abuse under principle-based or objective-oriented standards. However, a principle-based system can function effectively if the hazard of misrepresentation is eliminated. In other words, once the incentives of managers and auditors are aligned with those of investors, principle-based accounting standards can become effective and indeed superior to the bright-line rules that some claim have produced perverse incentives to structure transactions so as to obfuscate. In what follows, I describe corporate governance mechanisms that could encourage truth-telling and, as a result, facilitate principle-based accounting such as the system just proposed.

INCENTIVE-COMPATIBLE MECHANISMS: THE ROLE OF GATEKEEPERS

In the absence of truth-telling incentives, managers may report falsely. Mindful of some probability that a business is managed by unethical individuals, investors cannot rely on the financial reports without assurance of fair presentation. Managers with high ethical standards may wish to advertise their 'righteousness' to enhance the value of their shares. Yet nothing prevents managers with low ethical standards from engaging in false advertising. High-quality managers will hire auditors to attest to the veracity of their disclosures; the auditors will opine that there are no material misrepresentations in the client's financial statements (the advertisements). A substitution will occur, as organizations with a higher concentration of unethical agents will require a greater investment of external audit resources.

Auditors thus emerge as important gatekeepers. For their attestation to be credible, auditors must be perceived as 'objective' and 'neutral' qualified outsiders. They need to exert effort in detecting potential misrepresentation and to convince investors that they have done so. Auditors must face penalties if they do not do their job properly. Without such penalties, auditors' pursuit of their own self-interest may induce them to collaborate with the 'poor quality' managers, diminishing the credibility of financial reports. Presumably, in attempting to minimize such penalties, auditors will have an incentive to employ such procedures as will

enable them to detect biases in management's representations. SEC enforcement actions and suits, as well as civil suits brought by stockholders, have constituted these penalties. The Sarbanes-Oxley Act of 2002 (SOX) imposes harsher penalties on directors and officers and restrictions on auditors' services.¹⁹

So far, however, the existing deterrents have proved ineffective in curbing abuses. One needs only to scan the headlines announcing one accounting irregularity after another to entertain no doubts about the failure of the current system. Furthermore, there is no reason to hope that increased fines and prison terms introduced by the Sarbanes-Oxley Act will make more than a marginal dent in the tendency to cook the books over the long haul. Why?

The problem is that the incentives driving auditors' behaviour are not properly fine-tuned to elicit unbiased reports. In the current social arrangement, auditors operate under perverse incentives: they are paid by the companies they audit, so they are beholden to the CEOs and CFOs who ultimately decide on the hiring of their services. Although auditors are supposed to be the agents of the shareholders, in practice it is management that engages the auditor. Shareholders admittedly vote on management's recommendation of which auditor to hire, but the decision is effectively handed over to management; widely dispersed share ownership and the mechanism of proxy voting result in many shareholders giving their proxy votes to management, and others refrain from voting altogether. This arrangement creates an inherent conflict of interest that is endemic to the relation between the client (the principal) and the auditor (the agent). The client-principal (management) who engages the auditor ultimately pays for the services and hence de facto structures the latter's compensation to elicit a clean opinion.

Thus, even with changes in the auditor-client relationship mandated by the Sarbanes-Oxley Act of 2002 and supervision of auditors by the Public Company Accounting Oversight Board (PCAOB), the current relationship does not produce optimal results or, to put it more bluntly, does not work well for users of financial statements: '[D]espite these reform innovations, commentators identify continuing limitations in the structure of auditing' (Cunningham, 2004a). Indeed, ignoring what might prove to be a transitory, short-lived decline during the first half of 2007, rather than decreasing, the number of restatements has continued to increase since the enactment of SOX.²⁰

The increasingly complex environment of business and accounting standards aggravates the pressures put on the auditor, especially within the extremely

¹⁹ Sarbanes-Oxley Act, Pub. L. No. 107-204, 116 Stat. 745 (2002). The Act prohibits auditors from providing most traditional non-audit services, such as bookkeeping, financial information systems design, appraisal services, fairness opinions, actuarial services, internal audit services, management functions, investment banking, legal and other expert services unrelated to the audit, and any other services deemed by the Public Company Accounting Oversight Board to be impermissible. SOX (§ 201). The Act also requires that all services (with some minor exceptions) be pre-approved by the audit committee and that such approvals be disclosed in public reports. SOX (§ 201-2)).

²⁰ According to a *Wall Street Journal* article published on 31 July 2007, 'the number of companies restating financial results nearly tripled, to 1403 from 513, between 2003 and 2006, according to proxy advisers Glass, Lewis & Co. In the first six months of this year, though, the number of companies with restatements fell to 698 from 786 in the year-earlier half' (Lublin and Scannell 2007, p. B3).

competitive market for audit services. Given the difficulty of verifying valuations that are necessarily soft and subjective, an auditor who is paid by a potentially prevaricating client is naturally tempted to adopt the client's position. Thus, although some audit failures have been precipitated by incompetence and corruption, the subjective conditions that created audit uncertainty likely contributed to these failures. It certainly seems, whether proved empirically or not, that there are far too many restatements and earnings surprises. Although SOX may have eliminated the more egregious aspects of the fee-for-service conflict of interest, the problems inherent in a structural conflict of interest still exist, and history shows that periods of manifested greed are cyclical.

Concepts-based standards are not a panacea, however, since the standards must be 'applied' properly. Managers can still choose accounting treatments that do not reflect the underlying economics of a transaction. Managers, audit committees, and external auditors must have the desire for unbiased reporting, as well as the expertise, for conceptual standards to result in financial reports that faithfully reflect the underlying economics. Unfortunately, these qualities may not be in abundant supply. For example, researchers have found evidence that auditors are less able to resist client pressure for aggressive reporting when there is a wider range of acceptable accounting alternatives (Trompeter, 1994) and have found that flexible standards are associated with greater conflict and more negotiations between auditors and clients (Gibbins *et al.*, 2001).

It is doubtful that a move away from detailed rules will significantly decrease the incidence of omissions and misrepresentations in financial statements under the existing regime. Indeed, despite legislative provisions and the SEC's urging that concepts (substance) be followed rather than rules (form), as indicated above, restatements implying past misrepresentations increased in number through the end of 2006. In the next section, I discuss governance mechanisms that contribute to honest reporting by removing the conflict of interest between auditors and their clients. In the following sections, I suggest additional reforms designed to align the interests of managers and investors.

A FINANCIAL STATEMENT INSURANCE MECHANISM

In the aftermath of Enron and WorldCom, I had suggested (Ronen, 2002a, 2002b, 2002c) a financial statement insurance scheme as a market mechanism to align interests of auditors and managers with those of investors. In a recent joint work (Ronen and Sagat, 2007), a considerably revised scheme is proposed. The discussion below is based entirely on the latter.

Briefly, we propose that an auditing firm be incorporated with limited liability as an audit risk insurer (ARI) to assume liability for GAAP Deficiency Damages resulting from restatements of financial statements audited by the ARI.²¹ Since

²¹ An existing audit firm could incorporate itself or, more likely, on a test basis incorporate an ARI as an affiliate for the conduct of certain audits, or an existing insurer or other risk-bearing financial institution could establish a monoline auditing insurer subsidiary.

the fullest assumption of professional and ethical responsibility would be essential to both the integrity of the audit and limiting the risk assumed by the ARI, the board of directors and the chief executive and operating officers should be certified public accountants. For similar reasons, the capital required by the ARI should be conflict free and, thus, might likely be private, restricted, and vetted by the audit firm.

The ARI would insure against a restatement of the financial statements of its client. We realize that, in theory, financial statements could be misleading without violating GAAP, but such situations should be rare and possibly become more so with the passage to a principle-based GAAP from a rule-based regime.²² We also recognize that although restatements are to a large extent a measure of audit quality, they fundamentally and inherently point to a problem in the quality of the financial statement, which is jointly determined by audit quality and the quality of the client's accounting system. Indeed, the increase in restatements has also coincided with an increase in the percentage of executives' pay based on stock performance, which some have argued has significantly increased the incidence of earnings management and manipulation (Coffee, 2003), thereby degrading the quality of financial statements. Yet even though restatements may not be conclusive proof of a decline in audit quality, if auditors assume the risk of restatements, both the quality of audits and the quality of the underlying financial statements prepared by the clients will improve as auditors who are liable to cover shareholder losses up to the limit of the insurance (see below) are motivated by incentives to demand higher quality financial statements.

Since the ARI is insuring against losses triggered by a restatement, when performing its audit function it may be reluctant to restate an earlier financial statement it audited. However, this reluctance need not be greater than the current disinclination to restate on the part of auditors facing the prospect of lawsuits in response to corrections of prior audited statements. The ARI and individual auditors would be subject to full regulatory and criminal enforcement action, and we would suggest that an ARI should be subject to specific regulatory and criminal sanctions in the event of willful avoidance or delay in a restatement. More important, delaying an inevitable restatement would likely increase GAAP Deficiency Damages, with the result that the ARI would assume even greater risk. Since the ARI would be insuring a particular financial statement against a restatement, an ARI cannot run away from responsibility for its prior audits.

In the event of a restatement (whether decreasing or increasing income), the ARI would pay eligible claims by paying into an SEC Fair Fund a sum that would be capped at 10 per cent of an amount equal to the average daily decline (increase) in the stock price of its audit client, from the closing market price on the sixtieth day prior to the first announcement of a restatement (to allow for the

²² In my prior proposal on financial statements insurance any detected omission or misrepresentation would have been insured regardless of whether they resulted in a restatement. To ease implementation the current proposal is restricted to restatements, but we intend to expand the insurance ultimately to cover all misrepresentations or omissions once we are able to identify observable proxies for such.

effects of prior announcements of an impending restatement) until the sixtieth day following the restatement announcement, multiplied by the non-insider public float in the client stock (GAAP Deficiency Damages).²³ Any purchaser (seller) of the audit client's equity securities who purchased (sold) subsequent to the issuance of financial statements later restated in such a way as to decrease (increase) income and who held until the first announcement of the restatement would be eligible to submit a claim to the fund for its loss (subject, perhaps, to equitable offsetting adjustments such as offsetting profits and hedges).²⁴

More than compensating investors for losses *per se*, the proposal is directed to preventing misrepresentations and to reducing stock price volatility by creating an incentive structure that will deter misrepresentations *a priori*. From this point of view, auditors must assume liability to the extent necessary to provide sufficient incentives to maximize audit diligence. The amount of assumed liability that will hold the ARI responsible but nonetheless encourage the creation of ARIs will necessarily have to be fine-tuned, which is one of the reasons why a transition is proposed.

The 10 per cent multiplier to cap liability (which is suggested for present purposes pending developments) is derived from the median settlement amount, as a percentage of estimated damages, of class action shareholder suits involving restatements during the period 1997–2004, which was 4.9 per cent (Simmons and Ryan, 2006). This percentage is adjusted upward to 10 per cent, as an *a priori* proposal, mindful of the fact that the 4.9 per cent median settlement incorporates an assessment of the probability that the plaintiffs would not prevail in an eventual trial on grounds of their inability to prove falsity, scienter, materiality, causation or other requirements of liability. The proposed ARI assumption of liability, unlike litigation liability, is a 'no fault' concept not involving the proving of requirements for securities law violations. The percentage cap could be altered to take into account declines in applicable market and peer-company indexes to allow for other causes of stock price decline.

The ARI would charge the audit client a fee composed of a service fee for the audit and a risk premium for assuming liability for GAAP Deficiency Damages. The risk premium would be computed as the expectation of the contribution to the Fair Fund in the case of a restatement; thus, the premium should equal a projected contribution to the Fair Fund times the probability of a restatement. Naturally, both the projected contribution to the Fair Fund and the probability of restatement would vary. The contribution would depend on the actual stock price impact of a restatement, which would vary from one company to another, while the probability of a restatement would depend upon the relative strength of

²³ D&O damages currently are based on changes in the stock price, which are the source of stockholder losses. As in current litigation practice, we assume semi-strong market efficiency where prices fully reflect relevant public information including misrepresentation.

²⁴ Shareholders who held shares before the issuance of the false statements would not recover since they did not rely on the false statements when they invested and hence did not suffer losses due to omissions or misrepresentations that were revealed by the restatement.

internal control procedures, the degree of subjectivity inherent in estimates necessitated given the nature of the company's transactions, as well as other company-specific factors.

Since the risk premium would be a significant signalling mechanism for the securities markets, the audit client would be required to disclose publicly in its SEC filings the amount of risk premium it was paying.²⁵ Conceivably, the audit client could also disclose the range of competing bids by ARIs for risk premiums, although this might deter the client from obtaining multiple, formal bids.

Audit clients disclosing lower premiums would distinguish themselves in the eyes of investors as companies with higher quality financial statements. In contrast, those with lesser or no coverage or higher premiums would reveal themselves as having lower quality financial statements. A company should be eager to pay lower premiums, lest it be identified as the latter. A sort of Gresham's law would be set in operation, resulting in a flight to quality.

Assuming a semi-strong efficient stock market, the publicized coverage and the risk premium paid to obtain that coverage would provide a credible signal to the marketplace regarding the underlying quality of the financial statements, that is, the degree to which they might include omissions or misrepresentations. The ARI concept would satisfy the conditions required for a signalling equilibrium (Dontoh *et al.*, 2007). The market would be able to compare different companies and assess which presented more reliable financial reports. These different qualities would be reflected in the prices of securities of ARIs' clients in securities markets, contributing to market completeness.

The prices of these securities would reflect the degree of credibility of the underlying financial statements, as reflected in the risk premium. More accurate pricing of securities would help institutional and individual investors channel their savings and capital to worthy projects. Companies undertaking more promising ventures would be able more reliably and credibly to transmit information about the potential of these ventures to the markets and, hence, to obtain funds to finance them more cheaply and easily. Resources would be allocated more efficiently; social investment would yield a higher return.

A company with better quality financial statements would have an incentive to signal its superiority to the marketplace by demonstrating that it could obtain ARI-audited financial statements at a lower premium than other companies in its industry. A company with poorer quality financial statements would be forced to reveal the truly lower quality and reliability of their financial reports; either it would pay a higher risk premium, or it would decide not to engage an ARI to audit its financial statements. The company thus would find it in its best interest to improve its internal controls and subjective estimation processes so as to qualify for a lower risk premium. By actually improving its procedures to induce the ARI

²⁵ The premium charged for the insurance would not be subject to manipulations or distortions: a smaller than appropriate premium for the risk assumed would signal too high a quality of financial statements, thus inflating the stock price and the damages paid by the ARI upon truth revelation; a higher than an appropriate premium would shrink the share of the ARI in both the insurance and the audit markets.

to assess a lower premium, it would signal to the marketplace the improved quality of its financial statements, resulting over time in a higher price for its securities.

Alternative approaches to solving the auditors' conflict of interest have been suggested. These include the government's or the stock exchange's appointment of auditors. These alternatives, however, would not be incentive compatible since neither the government's nor the stock exchange's interests are aligned with those of investors through an immediate market penalty (payment of insurance claims) that is triggered under our proposed system. Besides, it is well known that governmental and other self-regulated agencies are subject to capture by their constituencies.²⁶

The ARI would have immunity from liability under the securities law for its insured audits since its direct assumption of risk would ensure high-quality audits. Indeed, the truly independent risk-assuming auditor would insist on fair presentation not only to comply fully with GAAP, but also to reduce the market price reaction in the event of a restatement. The auditor would want to induce its audit client to signal potential problems so that its stock market price behaviour smoothed out. In these circumstances, there would be little need for auditor liability, with its attendant high litigation costs under the securities law. It is noteworthy that this insurance mechanism will effectively address the problem of auditor independence. Having aligned the interests of the auditors with those of investors, auditors would be truly independent in the sense that they would insist on accurate and transparent financial statements to minimize their liability. Rules that limit investments by the ARI's capital providers in the insured entities may be required to avoid residual conflicts of interest. Having thus ensured that auditors approach the audit with a truly independent state of mind, there would no longer be an impediment to their providing non-audit services to their clients.

The corporate audit client and its directors and officers would likewise have substantial immunity under the securities laws from liability directly arising from the restatement. They would not, however, have immunity for restitution claims (inclusive of claims for the sale of securities under Section 11 of the *Securities Act* of 1933 arising from a restatement) or from other claims not involving a restatement, and, equally important, they would be subject to liability to the ARI for GAAP Deficiency Damages paid by the ARI into the SEC Fair Fund to the extent that the ARI was not at fault. Presumably, an appropriate expedited arbitration forum would resolve such liability. However, directors and officers would have their customary rights to indemnification from the corporate audit client for their liability (assuming their conduct met the requisite standards). The corporation and its directors and officers would also not be immune from regulatory or criminal enforcement actions.

Immunity would provide the corporation with an incentive to pay a substantial risk premium to the ARI. On the other hand, the risk premium would change

²⁶ A more detailed discussion of regulation as an alternative appears in Ronen (2006) and Ronen and Berman (2004). Cunningham (2004b) compares the financial statement insurance scheme with alternative mechanisms and finds financial statements insurance to be superior to the alternatives.

from year to year depending upon the perceptions of risk, and an increasing premium would be a substantial signal to the securities market. This negative signalling should translate to lower stock prices, giving rise to a substantial penalty and disincentive for financial irregularity. For this reason, once a corporation elects to proceed with an ARI, there must be a 'lockup period' so that it cannot run away from the penalty of the higher risk premium in subsequent years with its negative signalling connotations. This suggested insurance mechanism, aligning the interests of management and auditors with those of investors would serve to facilitate the move from rules to principles in standard-setting.²⁷ Once interests are aligned, there would be incentives to apply the principles without bias. In order to decrease insurance premiums and thus signal better quality financial statements and so decrease the cost of capital, it will be in managers' self-interest to report honestly. Auditors will seek to make sure financial reports are truthful in order to avoid liability. In such a regime, the broad accounting framework proposed above would give rise to relevant and reliable financial statements and hence would satisfy the objectives of informativeness and stewardship.

Although the insurance mechanism suggested above aligns the interests of both auditors and managers with those of investors, additional mechanisms may be needed to further deter managers from cooking the books. I next propose a restructuring of the compensation scheme to oblige managers periodically to purchase their company's own stock at random prices. My second proposed reform would let a corporate insider (the CEO or a director) make a market in the company's stock, thus internalizing the cost of biased presentations.

RESTRUCTURING OF COMPENSATION ARRANGEMENTS

The board of directors is of course the first line of gatekeeping. It is the board's responsibility to monitor management and ensure that accounting and financial controls are such that the resulting financial statements fairly present the economic reality of the enterprise. A major tool in the kit of boards of directors is the ability to design the compensation scheme of management—a task that is typically delegated to the compensation committee. Agency theory describes structures of compensation schemes that not only elicit optimal effort but also induce truth-telling by use of the revelation mechanism. Appropriate fine-tunings of how managers are compensated can effectively deter management from inflating earnings or assets or otherwise misrepresenting the true implications of transactions.

Recent corporate scandals reveal the extent to which stock and options grants can tempt executives to inflate earnings to boost the share price and even to sell a company too cheaply for a quick gain. Witness, for example, the testimony in the HealthSouth case. Upon being told that aggressive accounting used in the past was no longer adequate to meet expectations, Richard M. Scrushy said: 'Go back

²⁷ It should be noted that the insured investors naturally include employees' pension funds invested in the company's equity as well as holders of the company's debt securities and other financial instruments.

and fix the numbers to meet expectations of the Street'. Or consider Leo Dennis Kozlowski and Mark Swartz, who, in the case of Tyco International Ltd, are accused of defrauding shareholders by selling stock they inflated by misrepresenting Tyco's financial condition. At the same time, stock and option grants are seen as aligning executives' interests with those of shareholders: by rewarding directors and officers when the stock price increases, one is inducing them to perform better so as to benefit shareholders and themselves in the process. Here, then, is the dilemma: How can directors induce executives to improve the firm's value without inflating the stock price by manipulating earnings?

Even though SOX makes some headway toward keeping management and directors honest, it only barely scratches the surface. For example, supposed remedies such as requiring executives to certify the financial statements and subjecting them to more severe penalties depend on the real and perceived ability or willingness of regulators to detect and punish wrongdoers; with all the authority and power they had, the SEC and other watchdogs in the past failed to forestall calamitous corporate meltdowns. Moreover, legislating that audit committee members have to have an independent state of mind creates no guarantee of independence. Properly tweaked incentives, but not laws, have a better chance of evoking this precious state of mind.

I thus offer the following proposal: The company's compensation committee would contract with its directors and officers to increase their holdings each quarter on a net basis by a predetermined number of the company's shares according to a formula that is custom-tailored to the company's environment and the circumstances of the directors and officers. The increase in holdings could be implemented either through outright purchases or through the grant of restricted stock as a component of the total compensation package.²⁸

The purchase price would be determined as the closing price at a randomly selected day within the quarter and made known to the directors and officers only when they settle their purchases at the end of the period. No sales of stock would be allowed until after a predetermined number of years following the executives' exit from the firm. Any liquidity needs of the executives, such as payment of taxes, children's tuition, etc., should be met by their cash compensation and borrowing using their accumulated stock as collateral. The total effective compensation they receive should be just enough to induce them to continue to work for the company in light of alternative employment opportunities.

Throughout their tenure, since the directors and officers would be potential purchasers of the stock, they would seek to pay as low a price as possible and thus resist temptations or shareholders' urging to artificially inflate the price. The fact that the dates determining the prices would be randomly chosen and not known in advance should deter them from artificially deflating prices before the purchase. Hence, they will wish neither to inflate nor to deflate the price; their best option

²⁸ The proposed mechanism would not increase the executives' holding of stock beyond the amount they hold presently or beyond the amount of holding determined to be optimal to achieve a second best to mitigate moral hazard.

is to strive to guide prices to reflect what they truly believe the company is worth. Suppose, for example, a CEO had to purchase 10,000 shares each quarter. To avoid paying a high price, he will act to maintain a low level of earnings and other related measures of profitability so as to restrain the price of stock. Cash bonuses based on earnings, and the need to meet market and shareholder expectations (lest he be fired), would check the impulse to depress the price excessively. Moreover, because he would not know in advance which day's price he would have to pay for the quarterly purchase, he would be precluded from misleading disclosures aimed at artificially depressing the price on any given day. A properly computed number of required shares to purchase would balance these opposing forces so as to generate prices that closely reflect the true value. This would also contribute to holding the magnitude of executive pay in check, since a substantial component of the dollar value of compensation at present is derived from the increased value of options due to inflated stock prices.

At the same time, because they expect to sell their shareholdings after their departure from the company, directors and officers would invest in profitable projects and otherwise act to increase the long-term value of the firm to maximize proceeds from the anticipated sale. By doing so, they would benefit themselves and shareholders in the process. The dilemma will have been resolved; and directors and officers will strive to perform but not cook the books.

Unfortunately, investors and institutions that hold their shares for only short periods—evidence points to average holding periods of less than one year—and eager to sell at a profit may balk at the idea of contracts that do not encourage executives to maximize the price in the short run, even if by artificial means. The proposed contractual arrangement therefore may have to be mandated, possibly by the SEC, to ensure honest reporting without sacrificing the incentive tools that boost performance.

LET THERE BE A MARKET MAKER

Yet another mechanism that may seem bold at first blush but that can be effective in restraining accounting manipulations is to mandate that a corporate insider make markets in the company's stock. Such an insider could be the CEO himself, a CFO, or a member of the board of directors. The idea here is that a well-informed insider who possesses intimate information about the firm's operations and its prospects and who is charged with the task of making a market in the stock—pocketing the gains and suffering the losses from market making—would not wish to quote too high a bid price, nor too low an ask price, lest he lose. Specifically, as a market maker, the insider would have to stand ready to buy at his bid price and to sell at his ask price. If he were to manipulate reporting to inflate prices, this will automatically inflate his bid price obliging him to stand ready to purchase at the higher price (otherwise he would not be able to replenish his inventory). Conversely, if he were to manipulate reporting such as to deflate prices he would have to stand ready to sell at the correspondingly deflated ask price (otherwise he would be subject to the risk of holding too large an inventory). Hence there would

be zero incentives to manipulate reporting. Moreover, being a market maker rules out insider dealing because of the transparency introduced by his quotes. The equilibrium price of the stock would then fully reflect the insider's private information. Price bubbles would disappear, as would busts.

Since prices would reflect the insider's information, a fair and truthful accounting presentation would yield accounting metrics of performance that move in tandem with the stock price. Lack of correlation would cast doubt on the relevance and reliability of the reported accounting numbers. This, in turn, would constitute a potent check on managers' accounting decisions.

CONCLUSIONS

Careful analysis of the fair value measurements included in FAS 157 and exposed for review by the IASB yields a mixed assessment of the utility of these measurements when provided within the current accounting framework. First and foremost, these measures, quantified as the exit value of assets and liabilities, are not informative about the fair value to investors—the magnitude of future cash flows to be generated by the firm. That is, the measures satisfy neither the objective of informativeness—pertaining to the prediction of cash flows and the risk associated with such—nor the stewardship objective—evaluating the contribution of management to shareholders' value. The exit value measurements required have the potential, however, to inform about some aspects of the risk surrounding future cash flows; namely, exit values reflect the abandonment value (what stakeholders may receive when things go wrong) and quantify an estimate of the opportunity costs the firm incurs by operating as a going concern. Unfortunately, this measure is of little use unless it is compared to the benefit to shareholders from the firm's continuing to operate as a going concern. This benefit can be measured by discounting cash flows expected from using the bundle of net resources within the firm. That is, juxtaposed against the exit values, one requires the use value of the combination of assets operated within the firm. Only by comparing the use values with the exit values can one gain insights into the downside risk associated with failure of the firm's particularized business model.

Second, the exit value measures described in FAS 157, and in particular those included in Level 3 measures, suffer from a lack of reliability and can be subject to bias and abuse. This is especially the case under the current flawed corporate governance regime. In the existing environment, managers and directors do not face consequences that effectively deter them from cooking the books. Nor are auditors' incentives aligned with those of investors; they are beholden to their clients, who structure and pay their fees. Both exit values and use values, as well as other accounting measures generated in compliance with principle-based rather than rule-based standards, can be made reliable and unbiased only when incentives for biasing are eliminated, that is, when the interests of directors and officers and auditors are aligned with those of investors.

I propose a new accounting framework. Under this broad framework, management provides its expectations of cash flows (use value of asset combinations)

based on the premise that the firm's resources would be used within the firm (rather than sold) to produce goods and services. To provide measures of opportunity costs and abandonment value, exit values are proposed as part of the framework. Offering both types of measures enables quantification of the benefits and costs of operating the firm: changes in the use value reflect the benefits, while changes in the exit value of net assets—manifested in changes in the composition of assets—reflect the costs. The framework also includes a systematic record of the past transactions, the main purpose of which is to establish the reliability of management's forecasts of cash flows by tracking both expectations and their realizations.

As indicated in the context of fair value measurements, my suggested framework is subject to the same criticism of unreliability and bias in the early period of implementation; that is, before a sequence of forecasts and realizations allow a proper evaluation of the information's reliability. This is so despite the fact that the compensation committee could design mechanisms that elicit unbiased reporting by utilizing the expectations and the realizations; the point is that the compensation committee of the board of directors would have no incentives in the current environment to do so. With unaligned incentives, misrepresentation hazard may deprive the measures of credibility. Therefore, reforms in corporate governance that align incentives are required. I present three. First, I propose the creation of a market for the insurance of restatements that would align the interests of auditors and investors. The other two are aimed at reducing management's incentives to misrepresent, by compelling quarterly stock purchases at a price randomly determined throughout the quarter, and by establishing a corporate insider, perhaps even the CEO, as a market maker in the firm's stock.

The framework I have presented in this paper consists of a comprehensive set of accounting measures and a set of corporate governance reforms intended to align corporate insiders' and auditors' behaviour and decisions with the interests of investors. Once such interests are aligned, honest reporting is ensured, and remaining issues of reliability would be confined to the inherent business uncertainty shared by both insiders and outsiders. Thus, the suggested reforms free us to venture into the presentation of historical quantifications, exit values and the discounted values of future cash flows expected from the particularized use of combinations of assets within the firm. The alignment of interests also enables professional judgment to be applied in implementing principles-based standards. Relevance with little or no sacrifice in reliability (at least with respect to bias) becomes possible. The measures proposed (historical quantifications, exit values and use values) are mutually complementary; they are beneficial jointly but not in isolation. For example, exit values alone are not useful for the prediction of future cash flows, but may be informative about risk. Use values alone are useful in predicting future cash flows but fail properly to signal risks or reflect the opportunity costs of generating the predicted flows. Historical quantifications alone are poor prognosticators of either future cash flows or risk, but in combination with use values and exit values, they enable comparisons with expectations that help evaluate managerial competence and forecasting ability, as well as update predictions

of future cash flows and risk. In sum, the proposed system would go a longer way towards accomplishing the objectives of informativeness and stewardship than existing or currently contemplated frameworks. Moreover, the combination of reporting system and governance suggested should prove effective in all settings; they are universal in nature.

Clearly, there is room for yet additional improvements. Uncertainty could be expressed in terms of probability distributions of events that managers or corporate insiders expect. With the advancement of technology as related to information processing, it is not inconceivable that investors would be able to analyse multiple financial statements for a given firm, where each of these statements reflects a set of events anticipated with some probability. Indeed, such probabilistic financial statements may loom in the not too distant future.

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