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Volume 15

Ethics, Equity, and Regulation

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ETHICS, EQUITY, AND REGULATION

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ADVANCES IN PUBLIC INTEREST ACCOUNTING
VOLUME 15

ETHICS, EQUITY, AND REGULATION

SERIES EDITOR

CHERYL R. LEHMAN
Hofstra University, New York, USA

ASSOCIATE EDITORS

TONY TINKER
*Baruch College,
The City University of New York, USA*

BARBARA MERINO
University of North Texas, USA

MARILYN NEIMARK
*Baruch College,
The City University of New York, USA*

United Kingdom – North America – Japan
India – Malaysia – China

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LIST OF CONTRIBUTORS

Norida Basnan	Universiti Kebangsaan Malaysia, Bangi Selangor, Malaysia
Anthony P. Curatola	Drexel University, Philadelphia, PA, USA
Denise Dickins	East Carolina University, Greenville, NC, USA
Charles R. Enis	Pennsylvania State University, University Park, PA, USA
Martin Freedman	Towson University, Towson, MD, USA
Brian Patrick Green	University of Michigan-Dearborn, Dearborn, MI, USA
Theresa F. Henry	Seton Hall University, South Orange, NJ, USA
Jill Hooks	Massey University, Auckland, New Zealand
Keith L. Jones	School of Management, George Mason University, VA, USA
Frank Linnehan	Drexel University, Philadelphia, PA, USA
Cathleen L. Miller	Wayne State University, Detroit, MI, USA
Alan Reinstein	Wayne State University, Detroit, MI, USA
Terrance Skantz	Florida Atlantic University, Boca Raton, FL, USA
A. J. Stagliano	Saint Joseph's University, Philadelphia, PA, USA

Stuart Tooley Queensland University of Technology, Brisbane, Australia

Stephanie M. Weidman Rowan University, Glassboro, NJ, USA

AD HOC REVIEWERS

Charles Richard Baker
Adelphi University, Garden City, NY

Joan Broadbent
Roehampton University, London, UK

Jacqueline Burke
Hofstra University, Hempstead, NY

Denise Dickins
East Carolina University, Greenville, NC

Matthew Haigh
Aarhus University, Aarhus, DK

Theresa F. Henry
Seton Hall University, South Orange, NJ

John E. McEnroe
DePaul University, Chicago, IL

Fahrettin Okcabol
Mercy College, Dobbs Ferry, NY

Steven Petra
Hofstra University, Hempstead, NY

Alan Reinstein
Wayne State University, Detroit, MI

Paula B. Thomas
Middle Tennessee State University, Murfreesboro, TN

Carol Tilt
Flinders University, Adelaide, Australia

Paul Williams
North Carolina State University, Raleigh, NC

Jeannie Welsh
La Salle University, Philadelphia, PA

Danture Wickramasinghe
Manchester Business School, Manchester, UK

THE IMPACT OF REGULATION ON ECONOMIC BONDING AND AUDITOR INDEPENDENCE: AN ANALYSIS OF SOX AND SUGGESTIONS FOR FUTURE RESEARCH

Denise Dickins and Terrance Skantz

ABSTRACT

The results of recent research suggest that certain provisions of the Sarbanes–Oxley Act of 2002 (SOX) may have been less successful than intended (e.g., Abbott, Parker, & Peters, 2009). Based on two different descriptions of economic bonding between auditors and their clients, we propose an explanation of why this might be so by showing that the effect of SOX mandates, and regulation in general, aimed at enhancing auditor independence is dependent on whether shareholders or managers monitor the auditor. The results of prior empirical studies are examined in context of the framework we describe, and suggestions for future research on this important topic are outlined.

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1. INTRODUCTION

This chapter examines how regulation aimed at improving auditor independence and enhancing financial reporting quality may generate economic forces that alter the economic bond between auditors and their clients and may, as a result, have unintended negative consequences. Recent research on the impacts of the Sarbanes–Oxley Act of 2002 (SOX) suggests SOX mandates may have failed to achieve SOX's stated intention, "To protect investors by improving the accuracy and reliability of corporate disclosures made pursuant to the securities laws, and for other purposes" (U.S. House of Representatives, Committee on Financial Services, 2002, p. 1). DeFond and Francis (2005) contend that a number of SOX mandates are unlikely to solve problems within the auditing profession and may instead lead to unintended negative consequences. Abbott, Parker, and Peters (2009) found certain SOX regulations may have diminished audit quality for certain registrants. Aggarwal and Williamson (2007) report no strengthening in the relationship between strong corporate governance and companies' market values comparing the pre- and post-SOX periods.

We theorize that one reason SOX may not have been as successful as intended is that certain of its newly introduced regulations change auditors' incumbency-dependent quasi-rents by increasing audit fees, restricting nonaudit fees, and constraining repeat engagement experience. SOX regulations created economic shocks that altered the profitability of existing audit contracts, changed the demand for auditor services, altered the market's perception of the relationship between auditors and their clients, and potentially changed the bargaining power of auditors.

Using two prior descriptions of the economic bond between auditors and their clients, we analyze how certain provisions of SOX are expected to impact the auditor–client relationship under different monitoring scenarios. We propose that in the short run, the extent to which newly enacted regulation may increase auditor independence hinges on whether managers or shareholders are de facto responsible for hiring and firing the auditor. In the long run, the negotiating power between auditors and their clients will likely return to the equilibrium that existed before the economic shock created by the regulatory change. We further demonstrate how the findings of prior research support our analyses.

Our analyses serve as the basis for predicting how the introduction of future regulation may be expected to influence auditor independence and financial reporting quality and contribute to the on-going debate about the

value of regulation in general, and SOX in particular, as a means of enhancing auditor independence and improving financial reporting quality (e.g., Gavious, 2007; Moore, Tetlock, Tanlu, & Bazerman, 2006; Nelson, 2006; DeFond & Francis, 2005; Cullinan, 2004). We also provide suggestions for future empirical research related to this important topic.

In the next section of this chapter, we provide a general framework based on two alternative descriptions of the auditor–client relationship for analyzing the effects of regulation aimed at enhancing auditor independence, first under a scenario where managers monitor the auditor, and second under a scenario where shareholders monitor the auditor. Section 3 summarizes certain SOX provisions designed to increase auditor independence, describes the possible effect of SOX mandates, and reviews the results of prior relevant literature. Section 4 provides suggestions for future research.

2. RESPONSIBILITY FOR MONITORING THE AUDITOR

Agency theory suggests that managers' objective is to maximize their own utility and that given the opportunity they will make decisions (e.g., perquisite consumption and shirking) that come at the expense of shareholders through a reduction in firm value. In the standard agency model, shareholders will anticipate the agency conflict with managers and the resulting agency costs. Assuming that the managerial labor market is competitive, shareholders will partially avoid agency costs through lower managerial salaries and benefits. Thus, managers have an incentive to agree to a mechanism that will ensure their avoidance of actions costly to shareholders. One mechanism that can accomplish this in a credible fashion is to engage an *independent* auditor to monitor the behavior of the manager (see Jensen & Meckling, 1976); however, if the auditor's independence is impaired, the auditor's ability to reduce agency costs is brought into question.

In this section, we show that SOX regulations may decrease or increase auditor independence through its effect on the economic bond between the auditor and the party who monitors the auditor–client relationship. The effect on independence will vary across firms because different firms are likely to have different governance structures in place with the result that the party who de facto monitors the auditor will vary across firms. Prior research has identified two parties who may be responsible for monitoring

the relationship between a client company and its auditor: managers and shareholders. DeAngelo (1981) describes a theory of economic bonding between the client and the auditor where managers have responsibility for engaging and dismissing the auditor. With managers responsible for monitoring the auditor, collusion between managers and auditors may occur due to the existence of quasi-rents. In a competitive audit environment, quasi-rents are normal returns to the opportunity cost (or, "investment") represented by discounted first-year fees. The initial-year discounting of audit services (i.e., lowballing) considers the value of expected future quasi-rents found in future audit fees, nonaudit fees, and technological advantages gained through repeat engagement experience.[1] The results of prior research confirm the existence of auditor lowballing (e.g., Schatzberg, 1990; Elitzur & Falk, 1996).

DeAngelo (1981) also suggests the possibility that in an effort to maintain access to incumbency-contingent quasi-rents, auditors may choose to collude with managers and not report identified financial statement misstatements. As such, incumbent-contingent quasi-rents potentially impair auditor independence to the detriment of shareholders.

In DeAngelo's model, the presence of switching costs helps to minimize the likelihood that auditors will have to collude with managers. Switching costs are costs incurred by an audit client when switching auditors, including the cost of soliciting and "training" a new auditor, the potential for higher audit and audit-related fees with a new auditor, and any penalty assessed by the market based on its perception of the reason for the auditor change. Auditor switches may be interpreted by the market as resulting from auditor disagreements with management (whether reported or not) or increased risk associated with changing economic conditions (Fried & Schiff, 1981). The results of prior research confirm the existence of switching costs (e.g., Shu, 2000; Whisenant, Sankaraguruswamy, & Raghunandan, 2003; Johnson & Lys, 1990).

In the event of a disagreement, auditors can cause a client to incur switching costs by resigning. To the extent those costs are incurred indirectly by the manager (e.g., through earnings-based bonuses, his or her equity interest in the company, or loss of his or her reputational capital), switching costs provide a form of protection for auditors because they will not have to collude with managers to retain their quasi-rents when switching costs are sufficiently high. A manager will dismiss an auditor who is unwilling to collude only if switching costs plus the fee demanded by a new auditor is less than the incumbent auditor's fee. Therefore, as switching costs increase, auditor dismissal for failing to collude becomes less likely.

One objection to a theory of management influence over auditors is that managers should have little sway over auditors in the typical case where the audit committee of a company's board of directors is responsible for hiring and monitoring of the company's auditors. However, regulators' enactment of SOX rules requiring that audit committee members be independent of management and requiring the auditor report directly to an independent audit committee suggests that regulators subscribe to DeAngelo's proposition that audit committee participation *alone* is insufficient to prevent auditor–manager collusion. The presumed ineffectiveness of audit committees in a pre-SOX world is premised on audit committee members' lack of independence and resulting management influence over auditors. Wyatt (2004, p. 45) supports this position suggesting that the accounting scandals of 2002 were at least in part the result of auditors, "becoming too cozy with clients."

In contrast to the case where managers monitor the auditor, quasi-rents are mechanisms that help ensure that auditors maintain their independence when shareholders are responsible for hiring and firing the auditor (Lee & Gu, 1998). If shareholders discover that the auditor is colluding with managers, the auditor will be dismissed and thus lose access to incumbency quasi-rents. Under this scenario, the auditor's market value includes the quasi-rents that can be earned under the audit contract *if the auditor remains honest*. Quasi-rents act as a "bail bond" that the auditor must forfeit if he or she does not remain independent, and managers who wish to misstate earnings must "bribe" the auditor with some sort of "side payment" to induce collusion. Thus, auditors with a sufficiently large bail bond will reject the side payment and report any identified misstatements. The optimal size of the bail bond from the shareholders' point of view will depend how much the manager will benefit from misstating earnings; as a manager's expected benefit increases, he can afford to make higher side payments. In this model, switching costs are incurred by the shareholders through a reduction in firm value and those costs act to reduce the likelihood that shareholders will operate in an opportunistic manner to the detriment of auditors. High switching costs will help ensure that shareholders do not terminate an honest auditor to obtain first-year discounts from a new auditor.

When shareholders monitor the auditor, an unexpected decrease in quasi-rents *increases* the likelihood that an auditor's independence will be impaired. Auditors now have less to lose from dismissal for collusion and managers can offer lower side payments to entice the auditor to collude; thus, auditors are more likely to compromise their independence. Declines in switching costs mean stockholders are more likely to be opportunistic,

terminating honest auditors who are unwilling to agree to significant fee concessions. By contrast, when the manager monitors the auditor, an unexpected decrease in quasi-rents *decreases* the likelihood that an auditor's independence will be impaired, as decreases in switching costs increase the likelihood an honest auditor will be dismissed for a failure to collude (DeAngelo, 1981).

In spite of the enactment of SOX requirements designed to enhance auditor independence and increase the role of shareholders in auditor monitoring, only rarely will the question of auditor monitoring be clear cut. For example, audit committee members are also members of the board of directors and, as such, are elected by shareholders and theoretically act as shareholders' representatives. Thus, when the audit committee has responsibility for hiring and firing the auditor, shareholders are effectively responsible for auditor monitoring. In this scenario, the auditor's incentive to collude with managers is reduced because, if collusion is discovered, the auditor will presumably be terminated. Of course, this relatively simple line of reasoning can be upset by ineffective audit committees or managers with strong influence over the board of directors or audit committee members.

As suggested by Jensen (1993) and Wild (2006), if audit committee members have sufficient stock ownership, their interests will be closely aligned with those of other shareholders. On the contrary, if audit committee members have very little vested interest in the company or receive a significant portion of their compensation in cash, it may be that their level of commitment to ensuring auditor independence is low and the de facto responsibility for monitoring auditors may belong to managers. As another example, shareholder voting in many publicly traded companies is effectively controlled by managers, whether through proxies or ownership of a large or controlling block of the company's voting stock. In these cases, if the manager's investment in the company is significant to his or her net worth, he or she will be more likely to act in a manner that limits damage to that investment and to all shareholders.

In addition to cases where managers and shareholders are in conflict, there exists a third scenario where managers have a sufficiently large ownership interest (such as when the founder is the only or dominant shareholder, or when managers hold a large block of a company's equity instruments) that they use any quasi-rents to bind the auditor to the controlling owner–manager to the detriment of *future* investors. More generally, current shareholders and the auditor may collude against future investors in the same way that short-horizon managers may collude with auditors against current investors. The analysis of this situation is analogous to the situation where

the manager monitors the auditor but now the conflict is not between the manager and the current owners, but is between current and future owners.

This type of economic bonding frequently describes an initial public offering. For instance, in contrast to traditional agency theory prescriptions for board composition, Kroll, Walters, and Le (2007) report that boards of young companies having recently gone public are composed of a majority of original top management team members, rather than independent outsiders. In these situations, quasi-rents provide the auditor an incentive to collude with the controlling owner–manager in preparing to sell a portion of their equity interest to outside investors. The possibility that managers successfully and opportunistically overstate earnings in initial public offerings (IPOs) is empirically supported by Teoh, Wong, and Rao (1998) and most recently by Fan (2007), among others. Although these studies do not investigate collusion between auditors and manager–owners in these instances, the fact that managers were successful in overstating earnings suggests that auditors were unable or unwilling to discover the fraud whether as a result of complacency, incompetency, or implicit collusion. The dominant owner–manager situation is one where the likelihood of auditor collusion increases as quasi-rents increase, and, as switching costs increase, the auditor is more likely to preserve his or her independence.

The expected relationship between auditor monitoring, changes in economic bonding (quasi-rents and switching costs), and auditor independence is summarized in Table 1.

3. THE SARBANES–OXLEY ACT OF 2002 AND IMPLICATIONS FOR AUDITOR INDEPENDENCE

A recent regulatory attempt to shore up auditor independence is evident in certain provisions of SOX. There are at least five provisions of SOX that are designed, among other things, to enhance auditor independence. These are (a) restrictions on the auditor's ability to perform nonaudit services for their audit clients; (b) required certifications of management's assessment of internal control over financial reporting; (c) the independent audit committee's responsibility for engaging, monitoring, and dismissing the auditor; (d) mandatory audit engagement partner rotations; and (e) the requirement that auditors observe a mandatory one-year cooling-off period. In this section, we discuss these provisions together with their expected impact in context of the potential economic bonding descriptions in

Table 1. The Expected Relationship between Auditor Monitoring, Changes in Economic Bonding, and Auditor Independence.

Party Responsible for Monitoring the Auditor	Effect on Auditor Independence[a]	
	Increase in quasi-rents	Increase in switching costs
Managers	Impaired	Enhanced
Shareholders	Enhanced	Enhanced
Controlling owner–managers	Impaired	Enhanced

[a]Quasi-rents are described as normal returns to the opportunity cost (or, 'investment') represented by discounted first-year auditor fees. Viewing the opportunity cost as a sunk cost, fees that are designed to earn a normal return on the first-year investment are effectively abnormally high returns given the current services provided. Thus, the return on the sunk investment is like a rent, or a quasi-rent. Switching costs are described as the costs incurred by an audit client when switching auditors (e.g., the cost of soliciting and ''training'' a new auditor, the potential for higher audit and audit-related fees with a new auditor, and any penalty assessed by the market based on its perception of the reason for the auditor change). When quasi-rents increase, the effect on auditor independence depends on the party monitoring the auditor as discussed in the text. When switching costs increase, auditor independence is enhanced; however, the reasons for this outcome vary depending on whether managers or shareholders monitor the auditor. Impaired auditor independence implies the auditor is more likely to agree with a manager's attempt to misstate earnings. Enhanced independence implies the auditor is more likely to resist attempts to misstate earnings.

Section 2. We also review research supporting our conclusion that the effects of those provisions on auditor independence will be influenced by the party monitoring the auditor.

3.1. Restrictions on Nonaudit Services

SOX restricts auditors from performing various nonaudit services. These services are internal audit, financial systems design and implementation, actuarial estimates, bookkeeping, valuation, legal representation, and certain types of ''expert'' assistance. Due to their nature, these services are thought to be independence-impairing. For example, an auditor who assists in the design of internal controls may find it difficult to provide an unbiased assessment of whether or not those controls are effective. In spite of the limitations imposed on nonaudit services, there continue to be a wide variety of services that auditors can offer their clients, some of which have the potential to generate large fees. As examples, auditors can still perform tax return preparation and acquisition due diligence services.

Our analysis of the effect of nonaudit service restrictions is limited to how the associated fee reductions are expected to affect the economic bond between auditors and their clients. To document the effect of the restriction of nonaudit services on audit firm fees, we examined fee data as reported in the Audit Analytics database for firms that paid audit fees of at least $1 million in 2001 and that had market capitalization of at least $1 billion ($n = 465$). For those firms, nonaudit fees declined by 34.5 percent from an average of $9.11 million in 2001 to an average of $5.97 million in 2002. Over the longer run, for a sample of all firms in the Audit Analytics database that did not change auditors between 2001 and 2005 ($n = 810$), nonaudit fees declined from an average of $1.80 million in 2001 to $0.65 million in 2005.[2] Similarly, for a sample of 3,390 accelerated filers that disclosed auditor fees in each year from 2002 to 2007, Audit Analytics reports that nonaudit fees decreased from an average $1.22 million in 2002 to $0.78 million in 2007. SOX restrictions on nonaudit services by a company's auditor eliminated a significant source of auditor fees (existing and future) and hence reduced auditor incumbency-contingent quasi-rents. Given public concerns expressed by regulators over the potential conflicts when auditors provide nonaudit services, it is likely that the market will view nonaudit service limitations as independence-enhancing. Thus, we would expect that after the restriction of nonaudit services, an auditor dismissal is more likely to be viewed as resulting from a disagreement, potentially increasing switching costs.

As discussed in Section 2, when an audit contract is initially negotiated, auditors consider the amount of estimated future quasi-rents in their pricing proposals. In a competitive audit market, these estimated quasi-rents do not impair independence because switching costs serve as a ceiling on the amount of the negotiated lowballing and thus the quasi-rents at risk. With the regulatory elimination of certain nonaudit services, there are sudden and unexpected reductions in quasi-rents, and as a result, the contract may no longer meet the auditor's criteria for economic viability. The auditor may seek to increase audit fees to recapture lost quasi-rents, may seek ways to terminate the contract, or may be forced by competitive pressures to accept a less profitable engagement.

If managers monitor the auditor, an auditor's independence is *enhanced* by an unexpected decline in future quasi-rents. The economic damage implied by a manager's threat to dismiss the auditor for a failure to collude is reduced. The reduced quasi-rents are a weaker enticement for the auditor to collude. By contrast, if shareholders monitor the auditor, auditor independence is *potentially impaired* by unexpected decreases in quasi-rents.

The unexpected decrease in quasi-rents reduces the bail bond that auditors have at risk, and shareholders have lost one mechanism for helping to ensure that the auditor will *not* collude with managers. With a smaller quasi-rent at risk, any given magnitude of side payment offered by the manager as an inducement to collude is more likely to be accepted by the auditor. Thus, audit quality may be reduced.

Prior research in this area has been restricted primarily to the relationship between measures of financial reporting quality and nonaudit fees at a point in time. Moehrle and Reynolds-Moehrle (2005, 2007) provide a summary of recent literature on the relationship between nonaudit fees and measures of financial reporting quality, which collectively provide inconclusive evidence. Some studies suggest that an auditor's provision of nonaudit services may be independence-impairing (e.g., Frankel, Johnson, & Nelson, 2002). Other studies find no association between nonaudit fees and financial reporting quality or audit quality. For example, Ashbaugh, LaFond, and Mayhew (2002) and Reynolds, Dies, and Francis (2004) find no association between nonaudit services and discretionary accruals after controlling for firm performance, and DeFond, Raghunandan, and Subramanyam (2002) find that neither the level of nonaudit fees nor the ratio of nonaudit fees to total fees decreases the likelihood that an auditor is willing to issue a report modified for going concern.

Like evidence on the relationship between nonaudit fees and financial reporting quality, evidence on the market's perception of nonaudit services is mixed. As examples, Krishnan, Sami, and Shang (2005) find a negative relationship between nonaudit services and the earnings response coefficient (ERC),[3] but, Higgs and Skantz (2006) find a positive relationship between the profitability of nonaudit services and the ERC.

The failure of prior research to find a consistent relationship between nonaudit fees and financial reporting quality, or the market's perception of nonaudit services, is not surprising. Quasi-rents reflect normal returns to the auditor's initial fee discount; thus, cross-sectional differences in quasi-rents are not likely to be reflected in cross-sectional differences in audit quality. However, changes in quasi-rents due to an unanticipated shock to the system are expected to affect auditor independence and audit quality because the shock effectively rewrites the implied auditor contract. Accordingly, while most extant research investigates the relationship between quasi-rents and auditor independence using quasi-rents measured at a point in time, we believe it is theoretically more appealing to focus on changes in quasi-rents as a result of new regulatory mandates. Furthermore, the impact of a potentially highly correlated omitted variable, auditor monitoring, must be

considered. We identified one study that examines the relationship between changes in nonaudit fees and changes in financial reporting quality comparing periods immediately before and after SOX (Dickins, 2007). In that study, changes in nonaudit fees and changes in financial reporting quality are found to be negatively related; however, the study does not control for the influence of auditor monitoring.

3.2. Certification of Management's Assessment of Internal Control over Financial Reporting

Section 404 of SOX requires that auditors certify management's assessment of internal control over financial reporting. The additional fees from Section 404 certifications have generated a new source of revenue that largely replaced revenue lost as a result of restrictions on nonaudit services. The results of a survey conducted by Foley and Lardner (2005) suggest that audit fees paid by companies with less than $1 billion in annual revenue increased by 96 percent from 2003 to 2004 in connection with first-year Section 404 certifications.

For our sample of 801 firms that did not change auditors between 2001 and 2005, audit fees increased from an average of $0.79 million in 2001 to $2.79 million in 2005. Total fees paid by those 801 firms increased from an average of $2.06 million in 2001 to $3.15 million in 2005. For the previously mentioned sample of 3,390 accelerate filers, audit fees (total fees) increased from $1.15 ($2.87) million in 2002 to $2.37 ($3.65) million in 2007.

These data suggest that on average, SOX has had the effect of increasing audit fees and thus increasing quasi-rents from that source. Total auditor fees, on average, have increased over the six-year period from 2002 to 2007. Assuming the market perceives the increased audit effort required by Section 404 certifications as independence-enhancing, the cost borne by companies for switching auditors will likely increase.

If managers monitor the auditor, an unexpected increase in future quasi-rents can *potentially impair* an auditor's independence because a manager's ability to threaten the loss of quasi-rents as an enticement for the auditor to collude is increased. If shareholders monitor the auditor, auditor independence is *enhanced* by the unexpected increase in quasi-rents. The unexpected increase in quasi-rents increases the bail bond that auditors have at risk. Thus, the largest benefit from Section 404 certifications is likely to be for companies where governance provisions effectively give the authority to hire and fire auditors to the shareholders. For these companies, there would

be not only more audit effort but also an increase in auditor independence due to increased bonding of the auditor to the shareholders.

In addition to increasing future quasi-rents, Section 404 certifications are incremental to historical auditing procedures and conceivably deepen the auditor's knowledge and understanding of a company's processes and controls. Accordingly, it may be that financial reporting quality for companies required to have Section 404 certifications has increased. There are several studies that have examined the effect of SOX and Section 404 disclosures on financial reporting quality. Lobo and Zhou (2006) find that financial statements have become more conservative in the immediate post-SOX period, while Cohen, Dey, and Lys (2008) find less earnings management post-SOX. Zhou's (2008) study confirms these results. Chan, Farrell, and Lee (2008) find that reported material weaknesses in internal control are positively associated with earnings management.

In a study of the market's perception of the credibility of Section 404 audits, Hammersley, Myers, and Shakespeare (2008) and Cheng, Ho, and Tian (2007) find that companies experience negative abnormal stock returns on or around the date that material weaknesses in internal control are reported. In contrast, Beneish, Billings, and Hodder (2008) report that Section 404 disclosures have no noticeable impact on stock prices or companies' cost of capital.

Again, these mixed results are expected as none of the referenced studies considers the impact of auditor monitoring.

3.3. Audit Committee Responsibilities and Committee Independence

Audit committees are now charged with hiring the auditor and approving all nonaudit services. Before SOX, the responsibility for engaging the auditor and approving other contractual arrangements may have rested with corporate management, the board of directors, or the audit committee. SOX also required that provisions be adopted by stock exchanges that all audit committee members be "independent." In general, independence is presumed if the committee member is not an employee or close relative of an employee of the company and receives no direct or indirect compensation from the company other than fees related to board member service.

The impetus behind the provision requiring an independent audit committee is consistent with standard agency theory wherein managers look to maximize their personal wealth to the detriment of shareholders. Requiring independent audit committees to be responsible for monitoring a

firm's auditor is designed to help ensure that the interests of shareholders are considered ahead of those of managers. Because there are no restrictions related to stock ownership, an audit committee can meet the independence criteria when its members individually or collectively hold a significant amount of the company's outstanding common stock.

In a study particularly relevant to our analysis, Carcello, Hermanson, Neal, and Riley (2002) find a positive association between the independence of a company's board of directors and the audit fees (i.e., independent board members are willing to pay higher audit fees). This suggests that the SOX mandate requiring independent audit committees may increase quasi-rents in the form of higher expected audit fees. Given that an independent audit committee is expected to closely represent shareholders' interests, the likelihood that an auditor change is the result of opinion shopping may decrease as audit committees become more independent; thus, the market may be less likely to penalize companies for switching auditors.

In a recent experimental study, Mayhew and Pike (2004) find that when investors hire auditors, auditors' incentives to remain independent are enhanced. Although, Mayhew and Pike also note that while SOX has increased the separation between managers and auditors by mandating that auditors be hired by independent audit committees, this is not the same as having investors directly hire the auditor. Presumably charging an independent audit committee with hiring the auditor produces a result more similar to Mayhew and Pike's findings than does charging managers with hiring the auditor.

Prior studies have tested for an association between the degree of audit committee independence and the financial reporting quality with mixed results. Moehrle and Reynolds-Moehrle (2005, 2007) and Romano (2005) report that most of these studies find that independent audit committees improve auditor independence but fail to find that fully independent audit committees are superior to highly independent audit committees. Petra (2007) finds that the ERC varies cross-sectionally among companies dependent on the proportion of independent directors, but not dependent on the proportion of independent audit committee members.

Mak, Sequeira, and Yeo (2004) find that the market reacts favorably to the appointment of nonmanagement directors. At least one study considers the market's reaction to board member compensation structures finding that when Fortune 1000 companies appoint outside directors and do not have director stock option plans, the market's reaction is significantly negative (Fich & Shivdasani, 2005). Fich and Shivdasani (2005) conclude that director stock option plans help align the incentives of outside directors and shareholders.

In general, the results of prior studies suggest that markets have a favorable view of independent directors and further suggest the possibility that switching costs may vary with the independence of members of the audit committee, increasing in independence. However, variation among board members' ownership structures (Adams, 2003) suggests that the party de facto responsible for auditor monitoring lies along a continuum and will likely influence whether audit committee members are more closely aligned with managers or stockholders. None of the abovementioned studies considers the likely variation in audit committee member stock ownership and compensation structures, and its potential impact on auditor monitoring, earnings quality, or the market's perception of earnings quality.

3.4. Engagement Partner Rotation

SOX now prohibits audit engagement partners from remaining on a client engagement for more than five consecutive years, and, once rotating off, an engagement partner must remain off the client engagement for at least five years. Before SOX, the AICPA's SEC Practice Section required that engagement partners on publicly traded companies rotate at least every seven years. There are no restrictions on how long nonpartner members of a client engagement team can remain on the audit. By limiting the amount of time that an audit partner is able to spend on a particular client engagement, the rotation mandate aims to minimize the likelihood that the audit partner and company manager(s) will develop a relationship that impairs the auditor's independence. Another, possibly unintended consequence of partner rotation is that audit firm costs may increase as new audit partners familiarize themselves with client engagements. Increasing auditor costs or reducing the technological efficiencies gained from repeat engagement experience reduces incumbency quasi-rents, unless those costs can be passed on to clients, and if this provision is viewed by the market as independence-enhancing, switching costs may increase. If managers (shareholders) monitor the auditor, this reduction in future quasi-rents can enhance (potentially impair) auditor independence.

In the U.S. data, involving engagement partner tenure is generally unavailable; therefore, prior research about its effects is limited. Using Australian data, Hamilton, Ruddock, Stokes, and Taylor (2005) find that changes in audit engagement partners are associated with more conservative financial data. In contrast, Carey and Simnett (2006) also use Australian data and find a negative relationship between engagement partner tenure

and the likelihood of issuance of a going concern opinion. They also find no association between engagement partner tenure and abnormal working capital accruals.

Examining U.S. audit firm tenure, Myers, Myers, and Omer (2003) find a negative relationship between auditor tenure and abnormal accruals, suggesting that longer term auditors may control earnings management. Mansi, Maxwell, and Miller (2004) find that debt holders require higher returns as auditor tenure increases, and Chi, Huang, Liao, and Xie (2008) find that those Taiwanese companies mandatorily required to rotate auditors have higher ERCs, suggesting that the market perceives tenure as adversely affecting independence. None of the above studies considers the impact of a sudden shock to quasi-rents, as occurred when the five-year engagement partner rotation requirement was enacted, or do they control for auditor monitoring.

3.5. Mandatory Cooling-Off Period

SOX requires that if a company hires a former member of its audit engagement team in a supervisory accounting position or financial reporting oversight role, the individual must observe a one-year "cooling-off" period. The mandate is without regard to the level of the individual, their tenure, or the extent of their involvement in the audit. Violations of the rule create an independence issue for the auditor, prohibiting the audit firm from reporting on the company's financial statements.

It is likely that audit fees anticipate some level of engagement personnel turnover. To the extent that this SOX provision decreases the likelihood of engagement personnel turnover, auditor incumbency quasi-rents increase. As with other SOX provisions aimed at increasing auditor independence, if investors perceive that auditor independence has been enhanced, switching costs may increase.

The results of studies concerning the relationship between auditor independence and audit firm alumni have been mixed. For example, Dowdell and Krishnan (2004) and Menon and Williams (2004) find that audit firm alumni CFOs are more likely to manage earnings, but Geiger, North, and O'Connell (2005) find no significant differences in earnings management between companies hiring audit firm alumni and other companies. Imhoff (1978) studies the reaction of financial statement users to audit firm alumni hires. He finds that independence concerns increase as the position of the auditor increases and decrease as the cooling-off period

increases. None of these studies considers cross-sectional differences in auditor monitoring.

We were unable to identify any studies that examine the relationship between the length of an audit firm alumni's cooling-off period and the observed differences in financial reporting quality, or in the market's perception to variation in the length of the cooling-off period.

4. SUGGESTIONS FOR FUTURE RESEARCH

In this chapter, we propose that the effectiveness of regulation aimed at improving auditor independence is dependent on how such mandates affect the economic bond between auditors and their clients and on whether shareholders or managers are de facto responsible for monitoring the auditor. We described three different possibilities for auditor monitoring (managers, stockholders, and controlling owner–managers) and described the potential outcomes associated with five specific SOX mandates, given the nature of auditor monitoring. In each case, we propose that although the market may perceive these mandates as enhancing auditor independence, with a resulting increase in auditor switching costs, the actual impact on auditor independence and financial reporting quality will vary across firms.

We also summarized prior literature relevant to each of the mandates and suggest that inconsistent results in prior studies may be due to an omitted, highly correlated variable, auditor monitoring, as none of the studies we identify considers governance variables that could proxy for which party monitors the auditor. As such, the extant research leaves open the possibility for a stream of future research on this important topic. In this section, we provide some suggestions for future empirical research.

Evident from the mixed results of prior literature, the relationship between changes in auditor fees (both audit and nonaudit) and measures of financial reporting quality deserves further investigation. We have argued that changes in financial reporting quality resulting from external shocks to quasi-rents will depend, in part, on the party responsible for auditor monitoring. This possibility should be investigated. Proxies for auditor monitoring may include audit committee members' equity interest (e.g., as a percentage of shares outstanding or as a proportion of members' wealth), audit committee members' cash compensation (e.g., as a percentage of members' equity interest), and whether companies are owner-managed.

An important consideration in the research design is how to identify quasi-rents, along with controls for audit effort. Most studies have used

some measure of total fees (typically, nonaudit fees) or the fee ratio (total nonaudit fees to audit fees) when examining the relation between fees and reporting quality. Only a few studies have focused on economic rents (e.g., Higgs & Skantz, 2006). Also to our knowledge, no study has examined the relationship between changes in financial reporting quality and the unexpected changes in quasi-rents that resulted from SOX, controlling for the influence of auditor monitoring. Although such a study would not be easy to design, it would advance our understanding of whether regulatory shocks to economic bonds between auditor and clients improve or diminish reporting quality. For example, controlling for auditor monitoring, one could examine the relationship between changes in quasi-rents and changes in companies' ERCs or bid–ask spreads (a rough measure of information asymmetry).

Another possible avenue for research is whether switching costs depend on the party monitoring the auditor. For example, one could examine the relationship between institutional ownership (a proxy for the strength of shareholder monitoring of the auditor) and the abnormal return that a company experiences when reporting material weaknesses in internal control or when reporting auditor changes. As an alternative measure of the market's perception of material weaknesses and auditor changes, one could examine changes in the ERC subsequent to disclosure of material weaknesses.

The analysis in this chapter assumes that changes in switching costs due to SOX mandates are a relatively straightforward response that depends on how the mandate was intended to affect auditor independence. However, it is possible that market participants perceive that changes in quasi-rents will impact auditor independence in the nuanced way described in this chapter. This opens an avenue of research on the relation between changes in quasi-rents and switching costs, which parallels the research on the relation between changes in quasi-rents and reporting quality.

Another promising avenue, especially in light of mixed results in extant research, is a study of the relationship between financial reporting quality and auditor tenure, auditor switches, and audit firm alumni hires, after including a proxy for auditor monitoring. Controlling for auditor monitoring is important because it is plausible that longer tenure improves audit quality when shareholders monitor the auditor but diminishes audit quality when managers monitor the auditor. Thus, the mixed results in prior studies may be due to the exclusion of an important intervening variable.

It is likely that the impact of economic shocks from newly introduced regulation is temporary because auditor engagements will ultimately be

renegotiated and take into account the effect of regulatory changes on engagement profitability. Future research could test this proposition by separately investigating short-term and long-term effects, particularly around periods of newly enacted regulation intended to influence auditor independence and financial reporting quality.

If, as suggested in this chapter, auditor independence is influenced jointly by the economic bond between auditors and their clients and the party monitoring the auditor, and if the regulatory provisions in SOX have had the effect of shifting responsibility for monitoring auditors away from managers to shareholders, future regulatory provisions that reduce quasi-rents (such as mandatory audit *firm* rotation or further prohibitions on the provision of tax services) may, at least temporarily, have the unintended effect of impairing auditor independence and reducing financial reporting quality. However, in the long run, it is also likely that regulations (including SOX) that alter auditor quasi-rents will be reflected in changes in initial fee discounts, changes in total subsequent audit fees, or in the termination of auditor–client relationships.

NOTES

1. Because first-year discounted fees are a sunk cost, future fees that are designed to earn a normal return on the first-year investment can be viewed as abnormally high returns for the current level of services provided by the auditor. Thus, the portion of fees generating a normal return on the sunk first-year investment is like a rent, or a quasi-rent. Note that simply providing more services does not guarantee quasi-rents. The fee-for-service must be above a normal rate based on marginal cost alone for there to be a quasi-rent component.
2. The number of companies that have not changed auditors is substantially less over longer periods, reducing the power of the comparative analysis.
3. The ERC is the magnitude of the market response to a level of earnings surprise. If earnings exceed expectation by, say, $0.05 per share and stock price increases by $0.50 per share, the ERC is 10. All other things the same, higher quality earnings will be perceived as more persistent and the ERC will be higher.

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ROLE PERCEPTIONS OF ACCOUNTANTS: TEN MORE YEARS THROUGH THE LOOKING GLASS

Charles R. Enis

ABSTRACT

This chapter reports on the findings of the fourth wave of a longitudinal study of the image of accountants regarding perceptions of their instrumental and expressive traits. The four waves were conducted in 1972, 1982, 1992, and 2002. The images germane to this research were those reflected in the "looking glass" of undergraduate students, a relevant peer group of those potentially contemplating entry into the accounting profession. The accountant's stereotype has been blamed for harming the ability of the profession to attract individuals with excellent human relations and communications skills. The negative image originated when accounting was a male-dominated endeavor. Gender typing is important in forming impressions of vocational choices. Thus, this study investigates the manner in which the accountant's image has evolved as its gender composition has become balanced. My focus is on comparing the 2002 wave with the 1972 and 1992 waves. The latter comparison covers the period of the "Enron era" scandals.

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INTRODUCTION

This chapter reports the results of the fourth wave of a longitudinal study that examines the association between gender and perceptions of instrumental and expressive traits of accountants held by a relevant peer group. The results of the first three waves were published in Volume 7 of *Advances in Public Interest Accounting* (Enis, 1998). The focus of this chapter is to update the results of the prior three waves after incorporating the findings of the fourth wave and to examine differences between the latter two waves and the first and last waves. In each of the four waves, virtually the same semantic differential instrumental was administered to a relevant peer group of those contemplating as a major accounting, that is, undergraduate students. The research instrument was designed to measure impressions of instrumental and expressive traits; the former are more specific to professional performance, whereas the latter embrace "people" skills.

The perceived lack of expressive traits is largely responsible for the traditionally negative stereotype whereby accountants are regarded as dull, meticulous introverts. Understanding the evolution of perceptions is important because impressions held by peers influence the types of individuals who are drawn to the profession. During the first wave of this study (i.e., 1972), accounting was a male-dominated profession, but in the past 20 years accounting has achieved gender balance in its membership composition. According to Glick, Wilk, and Perreault (1995) and Gottfredson (1981), gender-type images are one of the most important factors that drive the formation of perceptions of vocational choices. Thus, an objective of this research is to gain insights into the role gender has played in the evolution of the image of accounting. The four waves were conducted 10 years apart over a 30-year period, 1972, 1982, 1992, and 2002.

The results show that the unflattering image of accounting applied to both genders in 1972. However, as the profession moved toward greater gender balance in subsequent waves, the image of female Certified Public Accountants (CPAs) became more favorable than the traditional stereotype, especially on the expressive dimension. In contrast, changes in the image of male CPAs were relatively stable. The image of both genders on the instrumental dimension was more favorable than on the expressive dimension. However, perceptions of instrumental traits for both genders declined from 1992 to 2002, a period that coincided with corporate scandals. Changes in perceptions regarding expressive traits did not change significantly during this period.

Several overall contributions of the present study to the accounting literature can be summarized. First, the perceptions that I examine are those

held by peers of potential accounting students as opposed to those of individuals who have to various degrees self-selected into accounting. Second, this is the only such study conducted in four waves to monitor the images of male and female CPAs over time. Third, this study covers the period of the recent accounting scandals. Fourth, the favorable image of female CPAs documented in the latter three waves is offered as an explanation contributing to accounting becoming more gender balanced relative to other traditionally sex-typed occupations. Finally, the results support the importance of female CPAs becoming more active in promoting the reality of the accounting profession to students, teachers, and career counselors in high schools and colleges.

The remainder of this chapter is organized in three sections. The Background section covers the theoretical underpinnings used to support the empirical work. The Method section discusses the research instrument, subjects, and statistical analyses. The Results and Conclusion section presents and discusses the empirical findings that relate to changes in the images of accountants over the 30-year period by comparing the results of the fourth wave with those of the 1972 and 1992 waves.

BACKGROUND

Social Interaction Process and Perceptions

The research reported in this chapter is linked to the social interaction process where one's self-image is driven by the influence of social antecedents such as peers, teachers, family ties, and the internalization of all roles in which the individual seeks identification (Wylie, 1961; Schlenker, 1985). The "looking-glass" self-concept (Cooley, 1922) that forms the theoretical underpinnings of this longitudinal study is embodied in this process. According to this theory, the degree to which the accounting profession is perceived favorably by target individuals (i.e., potential accounting majors) depends on how these individuals think accountants are perceived by their relevant peer group, other students. For example, if the targeted individuals believe that their peers think accountants are dull, then the targeted group will see themselves as dull if they choose accounting as a major. If being dull conflicts with these individuals' ideal self-image, then the choice of accounting as a major will be less likely. In short, role perceptions of accountants held by targeted individuals are the targeted individuals' images as accountants reflected in the "looking-glass" of their peers.

According to Fine (1990), the "self" resulting from the social process whereby individuals see themselves as they believe they are seen by peers is one of the most theoretically rich and time-enduring concepts in social psychology. Yeung and Martin (2003) offer strong support for the continued relevance of the "looking-glass" self-framework, a feature important for a longitudinal study.[1] These researchers, using data from groups of young adults, confirmed that self-concepts result from the internalization of perceptions of the views of others. Many studies have supported the importance of reflected appraisals from peers in forming one's self-perceptions in various roles (Shrauger & Schoeneman, 1979; Schlenker, 1980; Hesse-Biber, 1985; Tice, 1992; Burke & Harrod, 2005).

An unfavorable image of accountants held by relevant peer groups inhibits attracting individuals with the needed talents to the profession. An unflattering image along with the lure of "cool" careers in information technology, higher starting salaries for other business majors, and the 150-hour requirement have often been blamed for difficulties in attracting the best students to the profession (Albrecht & Sack, 2000; Rabicoff, 2002; Hunt, Falgiani, & Intrieri, 2004). Accounting majors made up 4 percent of all majors nationally in 1990; this figure dropped to 2 percent by the year 2000. Furthermore, 1 percent of high school students in 2000 showed interest in majoring in accounting as compared to 4 percent in 1990 (Taylor Research and Consulting Group, 2000; Sheridan, 2001). The reason for this decline that is germane to the present study is the perception that accountants are back room "bean counters" with poor interpersonal skills (Davidson & Etherington, 1995; Albrecht & Sack, 2000; Parker, 2000; Sheridan, 2001; Rabicoff, 2002; Hunt et al., 2004). Those connected to the profession are aware that this traditional stereotype is incorrect (Davidson & Etherington, 1995). However, students and influential non-accounting educators generally cling to the meticulous and introverted image of accountants (Taylor Research and Consulting Group, 2000; Hardin, O'Bryan, & Quirin, 2000). Even high school career counselors recommend that introverted students with good math skills consider careers as CPAs, while directing other bright but more creative and personable individuals toward other professions (Taylor Research and Consulting Group, 2000; Hardin et al., 2000; Sheridan, 2001). The attraction of students with the "wrong" skill-sets results when students and their mentors see accountants as number crunchers that do not like to work with people (Albrecht & Sack, 2000). The traditional negative image is outdated as CPAs are trusted business experts who enable people and organizations to attain their goals.

The accountant's image is evident in Holland's (1984) theory of vocational choice. Here career choice is a function of personality, capability,

motivation, and self-perception. According to Gottfredson and Richards (1999), Holland's theory has been implemented during the past four decades in the assessment of vocational settings to classify occupations according to the personality traits of incumbents and aspirants. Holland (1997) uses a hexagon to model work environments as well as people according to six types – realistic, investigative, artistic, social, enterprising, and conventional. These six types capture crucial differences in linking occupational environments, self-perceptions of personality traits, and career aspirations.

Holland classifies accountants as "conventional typed," which corresponds to individuals who are computational, wholesome, and stable.[2] Such attributes are instrumental traits, that is, qualities that are important to the accountant's professional environment such as being conscientious, honest, and dependable. These instrumental qualities are strongly represented in the accountants' stereotypical image and are important to the reputation of the accounting profession given its role in society. Holland's theory suggests that individuals who believe they possess these qualities are typical of those who aspire to be accountants. The looking-glass self-theory suggests that such beliefs stem from the reflected appraisals of peers.

In contrast to instrumental traits, accountants have a poor image on expressive traits, that is, qualities that are important to human relations and communication functions such as being outgoing, imaginative, considerate, and people-oriented. Perceptions of accountants as being strong on instrumental traits while weak on expressive traits create a meticulous, boring, and unattractive, and impersonal image. Negative stereotypes of accountants during the 1960s have persisted to more recent times (Fisher & Murphy, 2005). The current image of accounting is the reflection of complex interactions among various social, cultural, and historical phenomena. According to the symbolic interactionist, the socialization processes arising from these factors fashion the self-image and social roles attributed to accountants (Goffman, 1971). Fisher and Murphy (2005) provide evidence of the negative image of accountants persisting among the 106 full-time students who participated in their survey. Terms such as "nerds," "boring," and "uninteresting" were common descriptors of accountants.

Dull images of accountants evolved from their past roles as bookkeepers (Bedeian, Mossholder, Touliatos, & Barkman, 1986). Instrumental more so than expressive qualities were important in garnering the credibility necessary for accounting to evolve from a "bookkeeping trade" into professional status (Bougen, 1994). The more prosaic of the instrumental traits that were associated with the "bookkeeping era" also had a role in establishing a male presence in the field that persisted for many years

(Roberts & Coutts, 1992). Even the routine processing of columns of financial figures was deemed a male-typed activity during a time when females were discouraged from quantitative pursuits. Although instrumental traits remain important, expressive qualities over time have become more important than ever to the practice of accounting in the sophisticated global economy that was well underway before the second wave of this study (Borst, 1981) and continues to accelerate today (Albrecht & Sack, 2000). The image of the accounting profession must be changed to attract students with outstanding expressive as well as instrumental talents (Cohen & Hanno, 1993; Albrecht & Sack, 2000; Sheridan, 2001; Hunt et al., 2004).

Gender Typing and Perceptions

Many years of research have pointed to gender as an important variable in determining practices and interactions in virtually every aspect of social life and culture (Chafetz, 1999). Gender roles, perceptions, and preferences are especially critical to vocational choices since these factors are strongly linked to nascent self-image. According to Gottfredson and Lapan (1997), gender typing restricts the evoked set of career choices through circumscription and compromise. The former results in individuals disregarding occupations that conflict with self-concepts, as for example, the reluctance of young males with virile self-images to pursue careers in nursing (Simpson, 2005). Compromise results in the elimination of otherwise desirable choices because of perceptions of inaccessibility. For example, young females might not aspire to careers in engineering because they believe that mathematical abilities are naturally masculine (Correll, 2004). Perceptions that drive circumscription and compromise are motivated by cultural beliefs that stem from interactions with peers, family, teachers, and other social antecedents (Gottfredson, 1981; Correll, 2004). Furthermore, males more so than females are socialized into seeking careers that are more strongly associated with traditional gender roles (Eagly, Wood, & Diekman, 2000; Wigfield, Battle, Keller, & Eccles, 2002).

Prior research of gender roles has identified instrumental and expressive attributes as the two most important factors in forming perceptions (Spence & Helmreich, 1980). According to Bem's (1981)gender schema theory and the Markus, Crane, Berenstein, and Siladi (1982) two-factor theory of gender schema, instrumental qualities such as forceful, analytical, and competitive are regarded as masculine attributes, whereas expressive qualities such as gentle, understanding, and compassionate are feminine

characteristics. McLean and Kalin (1994) show that expressive traits differentiate males and females more so than instrumental traits. Society regards attributes such as sensitivity, nurturance, and service as feminine, and males traditionally eschew fields such as nursing and elementary school teaching associated with those attributes (Heilman, 2001; Simpson, 2005).

Gender schema theory suggest that people process information as a function of stereotypical "pictures" of males and females in judging what roles are appropriate for each gender (Schmitt & Millard, 1988). Roles that conflict with gender stereotypes can be perceived negatively (Yoder & Schleicher, 1996; Simpson, 2005). Carli (1990) has shown that individuals, especially females, who do not conform to traditional gender expectations, are less influential in decision-making groups. In a study of student evaluations, Sprague and Massoni (2005) showed that male professors were expected to be more entertaining in class, whereas female professors were expected to be more nurturing outside of class. These findings suggest that female professors have to spend more time with students to achieve favorable evaluations.

Other research has indicated that instrumental and expressive traits do not necessarily align according to gender. Both dimensions can be perceived as compatible with both genders (Spence, 1993; Orlofsky, 1981). For example, ethical behavior is an important professional quality for accountants and hence can be classified as an instrumental trait. Ameen, Guffey, and McMillan (1996) found that female accounting students were less tolerant of unethical academic behavior than male accounting students. However, if female students value academic honesty to promote harmonious work relationships, then ethical behavior would also have expressive properties. Furthermore, Davidson and Etherington (1995) found both male and female accounting students to have strong instrumental traits such as leadership and being practical and tough-minded. In fact, the most successful accountants possess both instrumental and expressive traits and have been sex-typed on both masculine and feminine characteristics (Maupin, 1990).

Researchers disagree regarding whether masculine or feminine characteristics are more valued in our society. Both males and females have regarded masculine attributes as more desirable than feminine attributes (Fabes & Laner, 1986; Taylor & Hall, 1982; Hudak, 1993). Fiske, Cuddy, Glick, and Xu (2002) found that participants of all ages in their study perceived the category "men" as superior to the category "women" on their multi-variate competency scale. On the contrary, Arkkelin and O'Connor (1992) have shown that trait "likableness" is more salient than gender typing in shaping perceptions. Thus, "likable" expressive traits may dominate gender typing in forming favorable impressions of male- and female-typed professions.

The precise matching of gender types with perceptions of personality traits, expectations, and career choices is an obvious oversimplification. Perceptions of professions and occupations are complex sets of interwoven instrumental and expressive impressions that are commingled and heavily influenced by gender (Deaux, 1995).

Women engaging in nontraditional sex-typed endeavors may not necessarily evoke negative reactions. As people are socialized in terms of their gender roles in society, they become more conscious regarding levels of gender inequalities (Sapiro & Conover, 2001). Females, if believed to be a disadvantaged group in business or politics, may be perceived more favorably in leadership roles by both genders. Those who believe that gender inequality is highly visible and politically sensitive in a given segment of society tend to favor policies that promote equality (Cameron, 2001). Younger women are more likely to exhibit stronger attitudes aimed at rectifying gender inequality than are older women or men (Inglehart & Norris, 2003).

McLean and Kalin (1994) cite accessibility, socialization, and gender participation rates as purported explanations for the gender typing of occupations. Accessibility refers to the cultural beliefs that the physical demands or skills that are required of the task environment are ill-suited for both genders (Correll, 2004). Socialization is the process whereby individuals are sorted into career aspirations by instilling gender-appropriate traits, goals, and attitudes in them from childhood. Gender participation rates indicate that an occupation will be more likely male (female) typed if a substantial portion of its membership is male (female) (Gianakos & Subich, 1988). The latter explanation appears as the most salient rationale for accounting being a male-typed profession during its evolution.[3]

The roots of the pedestrian image of accounting can be traced to a time when it was a male-valued and dominated occupation (Johnson & Dierks, 1982; Orlofsky, 1981; Cory, 1992). In short, accounting was linked to instrumental traits and regarded as a male endeavor. Accounting is a male-typed profession because for many years most accountants were male (Kirkham & Loft, 1993). The task environment of accounting is not necessarily male-typed, as would be the case for steelworkers (Olson, 2005). Also, the gender-based socialization process that steers only young men toward accounting is not as strong as in others fields, as for example, the segregation of women into nursing (Simpson, 2005). If accounting became a male-typed profession because of its largely male membership, as opposed to its task environment or socialization, then one would expect a mitigation of its gender-type over time given that a CPA today is almost as likely to be female as male. The present study investigates the manner in which the

image of accounting has evolved over time as the gender composition has changed to an almost even mixture of males and females (Lehman, 1992).[4]

Accounting was largely a male profession in 1972 when the first wave of this longitudinal study was administered, although more females had just started to enter the profession (Ried, Acken, & January, 1987). The dull motif of the accountant was clearly male-typed. The common stereotypical symbol of the green-eyeshade had a man wearing it (Beran, 1968). The focus of the first wave was to determine whether this negative image carried over to females in the nontraditional role of a CPA. The results showed that regardless of gender, accountants were perceived as strong (weak) regarding instrumental (expressive) traits. In short, the negative stereotype persisted regardless of gender.

The second wave was conducted in 1982 after the entry of substantial numbers of females to make accounting a more gender-balanced profession. From 1972 to 1982 the image of the male CPA was largely unchanged, that is, strong (weak) on the instrumental (expressive) dimension. In contrast, the image of the female CPA was significantly stronger than that of the male accountant on both dimensions, especially on the expressive dimension. In short, the improved image of the female CPA did not carryover to the male CPA.

The third wave was administered in 1992 after the gender composition had been almost evenly balanced for ten years; 1986 was the first year that the percentage of accounting graduates that were female reached 50 percent (Vigilante, 2005). Furthermore, almost 50 percent of new hires into the profession during this time were female (Hooks, 1994).[5] The novelty of a female CPA was less of a factor in the early 1990s. The superiority in the image of the female accountant relative to the male accountant diminished somewhat on both dimensions in 1992. This decline was more pronounced on the expressive dimension, although the gap between the genders remained substantial.

This chapter reports on the results of the fourth wave conducted in 2002. The main focus is on the manner in which the image of CPAs has changed between the first and fourth waves and between the third and fourth waves. The fourth wave was administered shortly after high-profile accounting scandals such as Enron and WorldCom, as well as the collapse of Andersen (Toffler & Reingold, 2003; Brickey, 2003; McLean & Elkind, 2003; Borrus & Byrnes, 2004). The negative publicity could have had a deleterious affect on the accountant's image, especially on the instrumental dimension where integrity and reliability are important. Historically, accounting has been regarded as more ethical than most other professions (Touche Ross, 1988). On the contrary, such scandals may have improved the image of accounting

(Hunt et al., 2004). Some practitioners believe that student awareness of the challenging role of accounting within our nation's financial system has increased at many business schools (Marinaccio, 2002; Rabicoff, 2002). The scandals demonstrated that accountants are not just "back-room bean-counters" of little relevance, but have a critical mission in the capital markets, the failure of which can have severe economic consequences.

METHOD

General Description

The research method described in this chapter is similar to that employed to analyze the prior three waves and is also covered in Enis (1998). The research design that combines the four administrations (1972, 1982, 1992, and 2002) is a $2 \times 2 \times 4$ between subjects design. Virtually the same semantic differential instrument was used in each of the four administrations. The stimuli were based on a study by Haire (1955) who measured the role perceptions that labor and management leaders had for each other. His subjects, drawn from both labor and management groups, were each provided with a profile and photograph of an average-looking man. However, some profiles described the man as a member of labor, others as a member of management; otherwise the profiles and pictures were identical. Haire observed that his subjects, in general, had a more favorable perception of the pictured man when he was described as a member of their own group.

In the present study, subjects were given profiles and pictures of two CPAs as concepts or stimuli for evaluation. The profiles contained identical information regarding income, residence, age (26 years), and marital status (single). The profiles included a picture of either a male or a female CPA. Unlike Haire (1955) I used artists' drawings rather than photographs. The drawings could be changed with each wave to reflect contemporary clothing and hairstyles while keeping facial features the same. Thus, sketches as opposed to photographs enabled the stimuli to have greater consistency across waves. The income figures reported in the profiles reflected salaries of CPAs with four years experience with a major accounting firm at the time of administration. In short, the stimuli factor has two levels (male versus female picture), the respondents' factor has two levels (male versus female), and the year of administration factor has four levels (1972, 1982, 1992, and 2002). The focus of this chapter is on the impact of the 2002 administration as compared to 1972, the first wave administered 30 years earlier, and 1992,

the most recent prior administration making for a $2 \times 2 \times 2$ between subjects design for these comparisons.

Semantic Differential

For each administration, the instrument contained the same 22 bipolar adjectives, accompanied with a seven-point attitudinal scale. For example, the adjective-pair "undependable-dependable" had attached to it a scale ranging from -3 for "undependable" to $+3$ for "dependable." Thus, if a respondent perceived the pictured CPA that he or she was observing as extremely dependable (undependable), a response of $+3$ (-3) would be appropriate. Likewise, a response of "0" would indicate a neutral impression regarding this trait. Thus, the semantic differential technique can measure differences in perceptions of multifaceted traits held by various groups of respondents with respect to contrasted stimuli such as the pictures of male and female accountants in the present study (Kilbourne, 1986).[6]

The 22 bipolar adjectives contained in the research instrument were compiled from key words selected from informal interviews with students, faculty, and recruiters before the 1972 wave.[7] These adjectives were intended to capture traits that are important to the accounting profession and the respondents, that is, undergraduate students who have not committed to an accounting major. These respondents represent the peer group relevant to those contemplating a choice of a major. Using a peer group relevant to potential accounting majors is necessary for the empirical work to be based on the looking-glass self-theory. In this study, students in introductory anthropology courses offered at a large Eastern public university formed the peer group.[8] Over the four waves, a total of 1,113 respondents participated in this study. The research design shown in Table 1 breaks down the respondent population according to treatment (i.e., whether they observed a male or female picture), gender, and year of administration. Responses to the 22 bipolar adjective scales were used to test the following general null hypotheses:

Hypothesis 1. Perceptions are not affected by the gender of the pictured CPA.

Hypothesis 2. Perceptions are not affected by the gender of the respondent.

Hypothesis 3. Perceptions are not affected by the year of administration.

These null hypotheses tests are applied separately to the instrumental and expressive dimensions. Hypothesis 3 is limited to comparing year 2002 with

Table 1. Research Design.

Years(s)	Respondent	Picture		Total
		Male	Female	
1972	Male	100[a]	100	200
	Female	100	100	200
	Total	200	200	400
1982	Male	62	48	110
	Female	80	63	143
	Total	142	111	253
1992	Male	48	35	83
	Female	60	55	115
	Total	108	90	198
2002	Male	64	61	125
	Female	69	68	137
	Total	133	129	262
All four years	Male	274	244	518
	Female	309	286	595
	Total	583	530	1,113

[a]Number of subjects, for example, in 1972, 100 male respondents evaluated 100 profiles showing a picture of a male CPA.

1972 and with 1992. All tests are two-tail. I used factor analysis and analysis of variance (ANOVA) models as the statistical procedures in performing my hypotheses tests.

RESULTS AND CONCLUSION

Factor Structure

A univariate comparison of each of the 22 adjective pairs across each of the four waves is shown in Table 2. An inspection of this table shows that in each wave the pictured female CPA was perceived as significantly more compassionate (V03), honest (V04), mature (V12), and generous (V22) than the pictured male CPA. Differences (if any) in perceptions regarding the other adjective-pairs are tethered to the year of administration. For example, the pictured female (male) CPA was perceived as significantly

Table 2. Both Genders' Mean Responses to the Female and Male Picture.

Variable Number	Adjective Pair[a]	1972				1982				1992				2002			
		Female	Male[b]	t-Value[c]	Significance[d]	Female	Male	t-Value	Significance	Female	Male	t-Value	Significance	Female	Male	t-Value	Significance
V01	Undependable–dependable	1.80	1.60	1.9	NS	2.14	1.55	5.8	.00	1.88	1.56	2.2	.03	1.67	1.27	3.0	.00
V02	Boisterous–quiet	0.86	0.79	0.5	NS	0.96	0.19	4.7	.00	0.39	0.72	−2.0	.05	0.40	0.20	1.2	NS
V03	Unfeeling–compassionate	0.27	0.01	2.1	.04	1.00	−0.06	6.5	.00	0.89	−0.09	6.6	.00	0.61	−0.14	4.9	.00
V04	Dishonest–honest	1.64	1.34	2.6	.01	1.60	0.83	4.4	.00	1.52	0.64	4.9	.00	1.04	0.34	4.3	.00
V05	Nonathletic–athletic	−0.81	−0.31	−3.2	.00	−0.41	−0.33	−0.4	NS	0.01	−0.43	2.1	.03	0.04	0.01	0.2	NS
V06	Ultra liberal–reactionary	0.20	0.20	0.0	NS	−0.06	0.42	−3.0	.00	0.17	0.19	−0.1	NS	−0.06	0.29	−2.3	.02
V07	Sexually inexper–Sexually exper	−0.29	0.29	−3.8	.00	0.50	0.54	−0.2	NS	0.27	0.49	−1.2	NS	0.71	0.32	2.4	.02
V08	Closed minded–open minded	0.08	0.07	0.1	NS	0.68	0.18	2.8	.01	0.59	−0.10	4.2	.00	0.48	−0.16	3.9	.00
V09	Unappealing–appealing	−0.56	−0.25	−2.0	.05	0.81	0.12	3.9	.00	0.71	−0.22	4.9	.00	1.02	0.05	5.6	.00
V10	Withdrawn–aggressive	−0.27	−0.05	−1.6	NS	0.45	0.65	−1.1	NS	0.58	0.08	2.6	.01	0.22	−0.04	1.5	NS
V11	Unaffectionate–affectionate	0.14	0.03	0.9	NS	0.90	0.10	5.1	.00	0.58	−0.09	4.3	.00	0.67	−0.12	5.6	.00
V12	Immature–mature	1.47	1.10	3.2	.00	2.21	1.20	6.8	.00	1.73	1.24	2.7	.01	1.54	1.10	2.7	.01
V13	Irresponsible–responsible	1.85	1.75	1.0	NS	2.08	1.56	3.2	.00	1.90	1.64	1.6	NS	1.60	1.39	1.3	NS
V14	Lazy–ambitious	1.54	1.47	0.6	NS	1.76	1.45	1.9	NS	1.56	1.19	2.1	.03	1.37	0.94	2.6	.01
V15	People oriented–task oriented	1.08	1.27	−1.3	NS	0.78	1.10	−1.8	NS	1.13	1.15	−0.1	NS	0.88	0.93	−0.3	NS
V16	Boring–fascinating	−0.60	−0.60	0.0	NS	0.14	−0.41	3.4	.00	0.01	−0.81	4.7	.00	0.01	−0.56	3.6	.00
V17	Down to Earth–snobbish	−0.12	−0.11	−0.1	NS	−0.22	0.51	−4.4	.00	−0.12	0.31	−2.6	.01	−0.09	−0.02	−0.4	NS
V18	Extravagant–frugal	0.66	0.58	0.6	NS	0.51	0.51	0.0	NS	0.59	0.63	−0.2	NS	0.10	0.12	−0.1	NS
V19	Humble–proud	0.33	0.65	−2.4	.02	0.51	0.68	−1.0	NS	0.54	0.55	0.0	NS	0.47	0.41	0.4	NS
V20	Inconsistent–consistent	1.39	1.34	0.4	NS	1.50	1.15	2.1	.03	1.38	1.23	1.0	NS	1.35	1.10	1.7	NS
V21	Conservative–flamboyant	−1.14	−1.12	−0.1	NS	−0.86	−0.82	−0.2	NS	−0.73	−1.06	1.6	NS	−0.70	−0.94	1.6	NS
V22	Stingy–generous	0.14	−0.20	2.7	.01	0.44	−0.35	4.6	.00	0.21	−0.39	3.5	.00	0.30	−0.30	3.8	.00

[a] The adjective on the left (right) anchored the negative (positive) end of the 7-point scale.
[b] Gender of the pictured CPA.
[c] *t*-value that tests the null hypothesis that the mean raw scores for the pictured female and male CPAs do not differ.
[d] NS = not significant at the $p \leq .05$ level (two-tail).

more quiet (V02) in the 1982 (1992) wave, whereas no significant differences were observed in the 1972 and 2002 waves.

Performing an ANOVA with the scores of each of the 22 bipolar scales as separate dependent variables would be cumbersome. Thus, I used factor analysis to reduce the 22 potential-dependent variables to a relevant parsimonious set that allowed me to make comparisons of perceptions between waves more manageable. I applied a verimax rotation to the principal components to identify those factors as best representing instrumental and expressive dimensions. These two dimensions are then tested for within- and between-year comparability. Next, I used the rotated factor loadings for each dimension to weight the raw responses on the seven-point attitudinal scales. I summed the weighted responses across the 22 adjective-pairs to derive composite instrumental and expressive scores. I used these two composite scores as separate dependent variables in their respective full ANOVA models with three main effects, three two-way interactions, and one three-way interaction to test the hypotheses specified in this study.

I used a limiting eigen-value of 1.0 to extract four factors from the responses of 1,113 respondents on the 22 adjective-pairs. These factors explaining 49.3 percent of the variance and their respective loadings after varimax rotation are shown in Table 3. Factors 2 and 1 represent the instrumental and expressive variables, respectively. Factor loadings $>|.5|$in Table 3 are shown in bold type. Adjectives such as, for example, compassionate, open minded, and appealing are expressive qualities, whereas adjectives such as dependable, mature, and ambitious reflect more the instrumental dimension.[9] The face validity of these factor descriptors is captured in the ‘‘people-oriented/task-oriented’’ (V15) adjective pair. Here Factor 1 (expressive) loads on ‘‘people-oriented’’ (−.3861), whereas Factor 2 (instrumental) loads on ‘‘task-oriented’’ (.4520).

The factor loadings in Table 3 of the present study are very similar to those reported in Enis (1998, Table 4). The variables showing loadings $>|.5|$in Table 3 and in Enis (1998) are identical.[10] This observation suggests stability in the overall factor structure over time. Such stability is important in allowing the use of the factor loadings in Table 3 as weights in computing values of the two dependent variables that are used in the remainder of the analyses, that is, composite instrumental and expressive scores. In other words, the rotated factor loadings must be comparable within-years and between years to assure that the instrumental and expressive dimensions are reliably and consistently measured across the four waves. I used the congruence coefficient (Harman, 1967) to measure factor comparability within year 2002, that is, the fourth wave, within all four years, and between

Table 3. Composite Factor Loadings: 1,113 Respondents Across All Four Years.

Variable Number	Adjective Pair[a]	Factors			
		1	2	3	4
V01	Undependable–dependable	0.1767	**0.6481**	−0.0749	−0.0261
V02	Boisterous–quiet	−0.0207	0.3103	−0.4406	−0.2562
V03	Unfeeling–compassionate	**0.7100**	0.2110	−0.1233	−0.0962
V04	Dishonest–honest	0.3487	**0.5720**	−0.2840	−0.1125
V05	Nonathletic–athletic	0.2654	−0.0834	0.0484	**0.6403**
V06	Ultra liberal–reactionary	−0.3825	0.1683	−0.1633	**0.5539**
V07	Sexually inexper–exper	0.2869	0.0403	0.3837	0.4784
V08	Close minded–open minded	**0.6859**	0.1298	0.0038	0.1600
V09	Unappealing–appealing	**0.6073**	0.2120	0.1984	0.3245
V10	Withdrawn–aggressive	0.2462	0.0578	**0.5728**	0.3459
V11	Unaffectionate–affectionate	**0.7006**	0.1966	0.0183	0.0204
V12	Immature–mature	0.3000	**0.6644**	−0.0196	0.0421
V13	Irresponsible–responsible	0.0837	**0.8237**	−0.0159	0.0041
V14	Lazy–ambitious	0.0827	**0.6765**	0.1852	0.1445
V15	People oriented–task oriented	−0.3861	0.4520	0.0052	0.0021
V16	Boring–fascinating	**0.6511**	−0.0069	0.1872	0.1998
V17	Down to Earth–snobbish	−0.4116	0.0023	**0.5508**	−0.1752
V18	Extravagant–frugal	−0.2165	0.2176	−0.4080	0.0447
V19	Humble–proud	−0.1703	0.1643	**0.7174**	−0.0253
V20	Inconsistent–consistent	−0.0464	**0.6784**	−0.0991	−0.0012
V21	Conservative–flamboyant	0.4178	−0.3226	0.4609	0.0440
V22	Stingy–generous	**0.6767**	0.0286	−0.0159	0.0009
Percent variance		20.5%	15.0%	9.0%	4.8%
Cumulative variance		20.5%	35.5%	44.5%	49.3%
Eigen-value		4.51	3.30	1.99	1.05

[a]The adjective on the left (right) anchored the negative (positive) end of the 7-point scale.

year 2002 and each of the other three waves, and all four years combined, see Eq. (1).

$$\text{Congruence coefficient} = \frac{\sum_{i=1}^{22} a_i b_i}{\left(\sum_{i=1}^{22} a_i^2 \sum_{i=1}^{22} b_i^2\right)^{1/2}} \quad (1)$$

where a and b are the expressive and instrumental factor loadings, respectively, that are being compared and $i = 1,\ldots,22$ are the adjective-pairs from the semantic differential instrument.

Table 4. Factor Comparability Using Congruence Coefficients (Eq.1).

Years	Factors	2002 Factors	
		Expressive	Instrumental
1972	Expressive	0.951	0.154
	Instrumental	0.260	0.958
1982	Expressive	−0.708	−0.262
	Instrumental	0.469	0.946
1992	Expressive	0.946	0.266
	Instrumental	0.188	0.965
2002	Within-year[a]	0.923	0.965
All four years			
	Expressive	0.976	0.252
	Instrumental	0.223	0.971
	Within-year[a]	0.949	0.983

[a]Within-year comparisons are performed on two sub-samples formed by randomly splitting the group for the period indicated in two sub-groups each consisting of the same number of respondents.

To measure within-year comparability, I split the respondents for year 2002 into halves and compared the instrumental and expressive factor loadings generated by the two segments. I measured between-year comparability by performing comparisons of the instrumental and expressive factor loadings between year 2002 and each of the other three years and the four-year composite loadings. Table 4 shows the results of these comparability tests. A congruence coefficient of at least .8 is a generally accepted benchmark used to establish adequate comparability (Everett & Entrekin, 1980). For example, the congruence coefficients between 1972 and 2002 on the expressive and instrumental loadings are .951 and .958, respectively. These figures indicate that the meanings students attached to the adjective-pairs making up these concepts have changed very little over 30 years.[11]

This stable factor structure enables the use of the rotated loadings in Table 3 as weights in deriving values for the instrumental and expressive variables for the analysis incorporating the fourth wave of this research. In fact, all comparisons of instrumental with instrumental and expressive with expressive loadings in Table 4, except one, have congruence coefficients $>.945$. The exception is the comparison between the 2002 and the 1982 loadings on the expressive dimension.[12] Eq. (2) computes the composite

expressive and instrumental scores using weights as the loadings from Factor 1 and Factor 2, respectively.

$$\mathrm{CS}_{ik} = \frac{\sum_{v=1}^{22} w_{vk} R_{iv}}{\sum_{v=1}^{22} |w_{vk}|} \tag{2}$$

where CS_{ik} = respondent i's composite score for dimension k; W_{vk} = factor loading for adjective-pair v on dimension k; R_{iv} = respondent i's raw response for adjective-pair v; k = Factor 1 (expressive dimension), Factor 2 (instrumental dimension); v = adjective-pair 1,…,22; i = respondent 1,…,1,113.

Analysis of Variance

Table 5 reports the results of six ANOVA models in three panels. Panel A compares the 1972 and 2002 waves, panel B compares the 1992 and 2002 waves, and panel C attempts a composite comparison across all four waves. Parts I and II of each panel is a composite comparison across the four waves. Parts I and II of each panel covers the instrumental and expressive dimensions, respectively. All models in Table 5 are significant at the $p<.001$ level; several have significant two-way interactions; but none have a significant three-way interaction.

Year 2002 versus 1972

Instrumental Traits. The results of the ANOVA model comparing the 2002 wave with the 1972 wave with respect to perceptions of instrumental traits are reported in Table 5, panel A, part I. Although the three main effects are significant, interpretations of these results are couched within the two significant two-way interactions: picture (PIC)∗respondent (RES) and picture (PIC)∗year (YR). I analyze and interpret these significant interactions in Fig. 1 following the approach suggested by (Neter, Wasserman, & Kutner, 1990, p. 687). Here I estimate PIC main effects within each level of RES and YR.

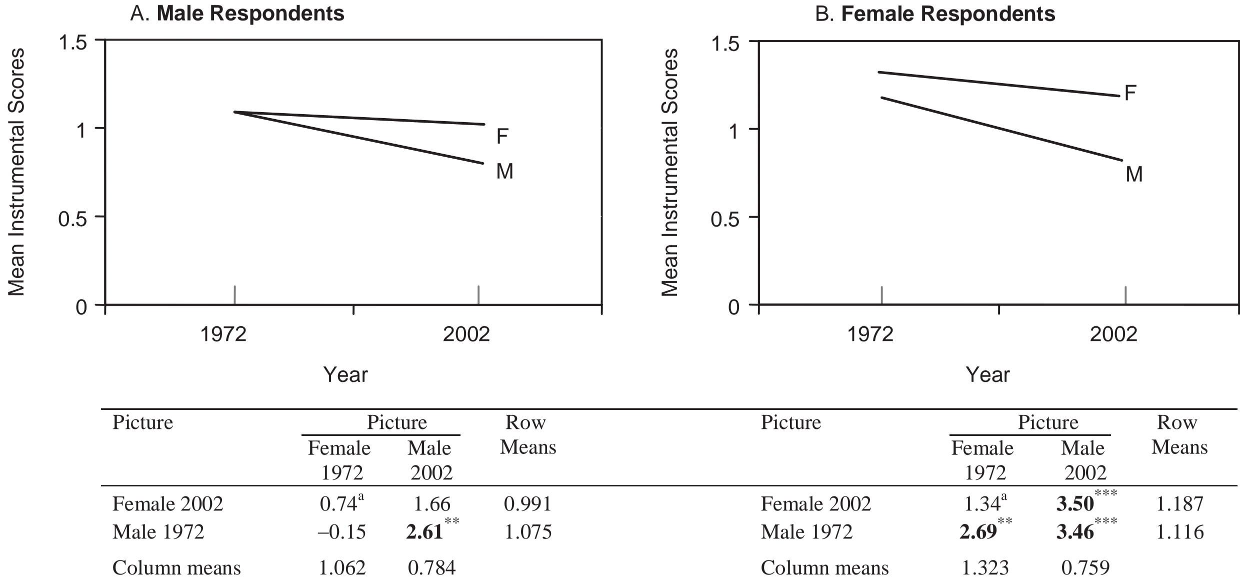
Panel A of Fig. 1 shows one significant finding. The mean instrumental score of 1.075 rendered by the male respondents in 1972 for the pictured male CPA is significantly greater than the mean score of .784 rendered in 2002 ($t = 2.61$, $p<.01$). Panel B shows three significant results regarding the female respondents. Females had a more favorable perception of the pictured female CPA than of the pictured male CPA in both 1972 ($t = 2.69$,

Table 5. Analysis of Variance.

Source	d.f.[a]	I. Instrumental Traits				Source	d.f.[a]	II. Expressive Traits			
		Sum of squares	Mean square	*F* Value	Pr > *F*			Sum of squares	Mean square	*F* Value	Pr > *F*
A. 2002 and 1972											
Main effects						Main effects					
Picture (PIC)			6.80	17.45	< **0.001**	Picture (PIC)			11.23	25.58	< **0.001**
Respondents (RES)			2.21	5.68	**0.018**	Respondents (RES)			0.03	0.06	0.800
Year (YR)			7.21	18.49	< **0.001**	Year (YR)			5.43	12.37	< **0.001**
Interactions						Interactions					
PIC*RES			1.91	4.90	**0.027**	PIC*RES			0.15	0.34	0.563
PIC*YR			1.92	4.93	**0.027**	PIC*YR			7.96	18.12	< **0.001**
RES*YR			0.17	0.44	0.509	RES*YR			0.91	2.08	0.150
PIC*RES*YR			0.00	0.00	0.999	PIC*RES*YR			0.14	0.33	0.567
Model	7	19.75	2.82	7.24	< **0.001**	Model	7	21.96	3.14	7.15	< **0.001**
Error	654	254.9	0.39			Error	654	287.11	0.44		
Total	661	274.65				Total	661	309.07			
B. 2002 and 1992											
Main effects						Main effects					
Picture (PIC)			10.53	22.01	< **0.001**	Picture (PIC)			28.50	72.82	< **0.001**
Respondents (RES)			0.62	1.30	0.255	Respondents (RES)			0.91	2.32	0.128
Year (YR)			3.85	8.05	**0.005**	Year (YR)			0.12	0.31	0.576
Interactions						Interactions					
PIC*RES			0.20	0.42	0.516	PIC*RES			0.02	0.04	0.840
PIC*YR			0.01	0.02	0.901	PIC*YR			0.04	0.09	0.761
RES*YR			0.01	0.02	0.876	RES*YR			0.00	0.00	0.978
PIC*RES*YR			0.50	1.03	0.310	PIC*RES*YR			0.58	1.49	0.223

Model	7	16.37	2.34	4.89	<**0.001**	Model	7	31.63	4.52	11.54	<**0.001**
Error	452	216.29	0.48			Error	452	176.90	0.39		
Total	459	232.66				Total	459	208.53			
C. All four years											
Main effects						Main effects					
Picture (PIC)			21.42	51.91	<**0.001**	Picture (PIC)			39.64	94.06	<**0.001**
Respondents (RES)			2.04	4.94	**0.027**	Respondents (RES)			0.28	0.67	0.413
Year (YR)			3.68	8.91	<**0.001**	Year (YR)			4.40	10.45	<**0.001**
Interactions						Interactions					
PIC*RES			0.88	2.14	0.144	PIC*RES			0.51	1.22	0.270
PIC*YR			1.66	4.03	**0.007**	PIC*YR			4.64	11.01	<**0.001**
RES*YR			0.15	0.37	0.778	RES*YR			0.42	0.99	0.398
PIC*RES*YR			0.25	0.60	0.617	PIC*RES*YR			0.58	1.37	0.250
Model	15	39.97	2.66	6.46	<**0.001**	Model	15	62.11	4.14	9.83	<**0.001**
Error	1,097	452.66	0.41			Error	1,097	462.31	0.42		
Total	1,112	492.63				Total	1,112	524.42			

[a] Main effects and interactions each have 1 degree of freedom (d.f.). Thus, sum of the squares equals the mean square for these seven sources. Significance tests are based on partial sum of the squares.



Picture	Picture		Row Means
	Female 1972	Male 2002	
Female 2002	0.74[a]	1.66	0.991
Male 1972	–0.15	**2.61****	1.075
Column means	1.062	0.784	

Picture	Picture		Row Means
	Female 1972	Male 2002	
Female 2002	1.34[a]	**3.50*****	1.187
Male 1972	**2.69****	**3.46*****	1.116
Column means	1.323	0.759	

Notes: M(F) indicates the pictured male (female) CPA.

[a]t-values that test the null hypotheses that the mean instrumental scores for the intersecting rows and columns do not differ.

$^{*}p \leq .05$; $^{**}p \leq .01$; $^{***}p \leq .001$ (two-tail).

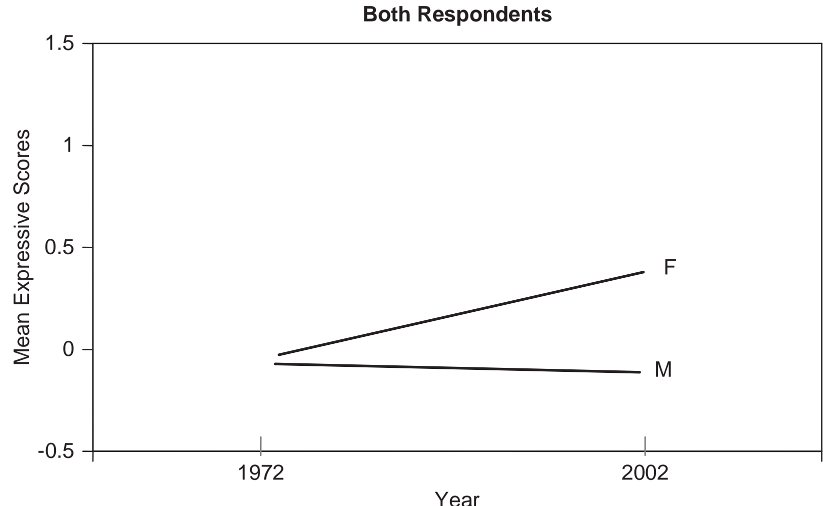
Fig. 1. Mean Instrumental Scores, 2002 and 1972: Showing Picture–Respondent and Picture–Year Interactions.

$p < .01$) and 2002 ($t = 3.50$, $p < .001$), and a more favorable impression of the pictured male CPA in 1972 than in 2002 ($t = 3.46$, $p < .001$).

The overall findings reported in Fig. 1 show that the extent to which the pictured female CPA was perceived as more favorable than the pictured male CPA regarding the instrumental dimension, and the rejection of null Hypothesis 1, is conditioned on the respondents being female. Also, the extent to which CPAs were perceived as less favorable on the instrumental dimension in 2002 as compared to 1972, and the rejection of null Hypothesis 3, is conditioned on the pictured CPA being male. Finally, the rejection of null Hypothesis 2 is conditioned on the picture being female, as female respondents favored their own gender in both years, and to a greater extent in 2002.

Expressive Traits. According to Table 5, panel A, part II, there are two significant main effects regarding the expressive dimension, PIC and YR. However, there is a significant interaction between theses two main effects, PIC*YR. The analysis of this interaction is reported in Fig. 2. Because there is no RES main effect, and RES does not interact with the other two main variables, the analysis in Fig. 2 is based on aggregating the responses of both genders. Fig. 2 shows two significant results, the mean expressive score of .376 for the pictured female CPA in 2002 is significantly greater than the mean expressive score of –.112 for the pictured male CPA in 2002 ($t = 6.20$, $p < .001$), and significantly greater than the mean expressive score of –.030 for the pictured female CPA in 1972 ($t = 5.57$, $p < .001$). In other words, the rejection of null Hypothesis 1, and the extent to which the perception of the pictured female CPA is more favorable relative to the male CPA on the expressive dimension, is conditioned on the year being 2002.

Three of the four mean expressive scores in Fig. 2 are negative, an observation consistent with the stereotypical image of accountants. The entry of greater numbers of females into the accounting profession during the 30-year period from 1972 to 2002 is associated with an improvement of the image of female accountants on the expressive dimension; however, this association did not carryover to male accountants. Therefore, the rejection of null Hypothesis 3 is conditioned on the picture being female. The mean expressive scores for the pictured male CPA observed for 1972 and 2002 did not differ significantly. In short, the image of male accountants did not improve in tandem with the profession becoming more gender balanced.



Picture	Picture		Row Means
	Female 1972	Male 2002	
Male 1972	0.62[a]	0.54	–0.072
Female 2002	**5.57*****	**6.20*****	0.376
Column means	–0.030	–0.112	

Notes: M(F) indicates the pictured male (female) CPA.
[a] t-values that test the null hypotheses that the mean expressive scores for the intersecting rows and columns do not differ.
*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$ (two-tail).

Fig. 2. Mean Expressive Scores, 2002 and 1972: Showing the Picture–Year Interaction.

Table 6. Picture and Year Main Effects, 2002 and 1992.

Mean Scores	Male	Picture	*t*-Value	1992	*t*-Value	*t*-Value
		Female			2002	
Instrumental	0.861	1.168	4.72***	1.109	0.930	−2.68**
Expressive	−0.139	0.371	8.74***	0.071	0.128	0.900

*$p \leq .05$.
**$p \leq .01$.
***$p \leq .001$ (two-tail).

Year 2002 versus 1992
The comparison of 2002 with 1992 in panel B of Table 5 is more straightforward than the comparison with 1972 in panel A of Table 5. Comparing the images of accountants in waves that are 10 years apart is less complex than comparing waves that are 30 years apart. This observation is evidenced by the absence of interactions in panel B of Table 5. Furthermore, there is no significant RES main effect in panel B, and hence, a failure to reject null Hypothesis 2; therefore, I combine the responses of both genders in reporting the results of this comparison in Table 6.

Instrumental Traits. According to Table 6, there are two significant main effects regarding the instrumental dimension, that is, PIC and YR. The mean instrumental score across both years of 1.168 for the pictured female CPA is significantly greater than the .861 score for the male counterpart ($t = 4.72$, $p < .001$). The YR main effect shows that the mean instrumental score for both pictures of .930 for 2002 is significantly lower than the 1.109 score for 1992 ($t = -2.68$, $p < .01$). The more favorable image of the female over the male CPA on the instrumental dimension persisted over the third and fourth waves and indicates rejections of null Hypotheses 1 and 3. Also, the image of accountants on the instrumental dimension deteriorated from 1992 to 2002.[13] The raw scores for the Dishonest/Honest (V04) variable in Table 2 support this decline in perceptions of the professional qualities of accountants. From 1992 to 2002, the V04 raw score dropped from 1.52 to 1.04 for the pictured female CPA and from .64 to .34 for the pictured male CPA.

The decline in perceptions of instrumental traits from 1992 to 2002 overlaps with the 1991–2001 period where the number of accounting majors dropped by an estimated 45.6 percent [Albrecht & Sack, 2000; Rabicoff, 2002; American Institute of Certified Public Accountants (AICPA), 2005]. Nevertheless, I must point out that the popularity of the major rebounded in

subsequent years. Accounting majors increased by 15, 17.4, and 8.3 percents in 2002, 2003, and 2004, respectively (AICPA, 2005; Rabicoff, 2005). That the findings of the present study and trends in the number of accounting majors coincide with the pre- and post-"Enron era" scandals are noteworthy associations and not cause and effect relationships. Many complex factors linked to the 1992–2002 period could have shaped the perceptions of the fourth wave respondents and the popularity of the accounting major.

Expressive Traits. According to Table 5, panel B, part II, there is only one significant finding regarding the expressive dimension, that is, the PIC main effect. This finding results in a rejection of null Hypothesis 1 and a failure to reject null Hypotheses 2 and 3. According to Table 6, the mean expressive score across both years of .371 for the pictured female CPA is significantly greater than the score of –.139 for the pictured male CPA ($t = 8.74$, $p < .001$). This finding shows that, over the latter two waves, female versus male accountants are perceived to possess greater levels of "affiliative" or "likeable" characteristics as embodied in the expressive dimension. According to Table 6, no significant difference is found between the 1992 and the 2002 mean expressive scores for the male and female pictures combined. Although the 1992–2002 period, which covered the "Enron era" scandals, is associated with a lower image of CPAs with respect to instrumental traits, accountants were not perceived less favorably regarding expressive traits.[14]

A General Summary across All Four Waves

Table 5, panel C shows the results of the $2 \times 2 \times 4$ ANOVA models that incorporate all four waves. I use Fig. 3 as the focal point to graphically illustrate and discuss the overall findings that these models suggest. PIC*YR in both the instrumental and the expressive models are the only significant interactions in Table 5, panel C. The "broken" appearances of the lines on the two graphs in Fig. 3 reflect these interactions. RES is a significant main effect in the instrumental model, but not in the expressive model. Over the four waves female respondents rendered a significantly greater mean instrumental score of 1.198 for the pictured CPAs as compared to 1.097 as rendered by the male respondents ($t = 2.60$, $p < .01$). Because RES does not interact with the other variables, I combined the responses of both genders in constructing the graphs in Fig. 3.

The PIC main effect for both the instrumental and the expressive models as reported in Table 5, panel C, is apparent from an inspection of Fig. 3. The lines representing the mean scores for the pictured female CPA are

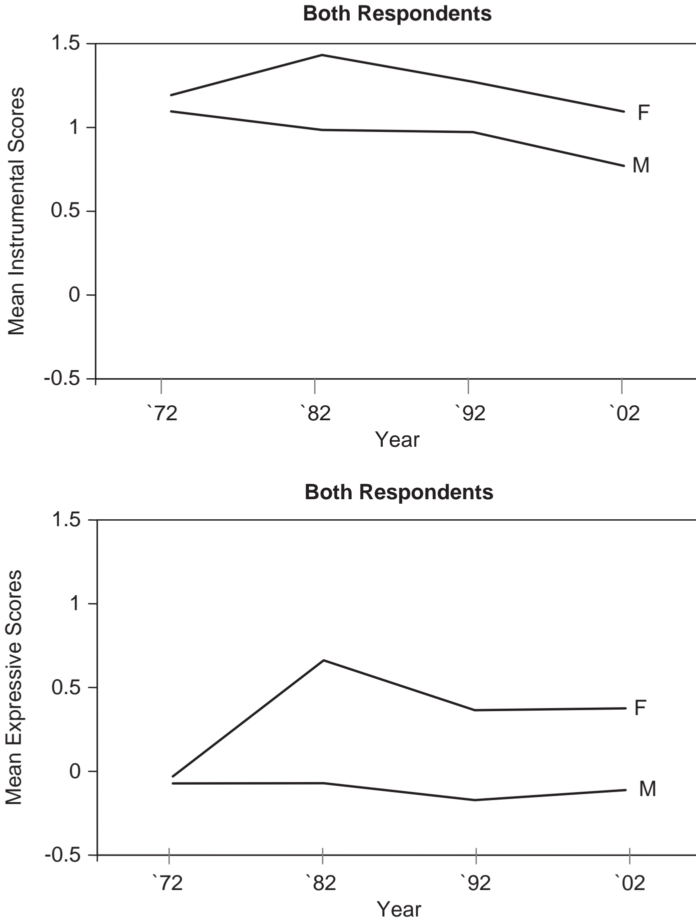


Fig. 3. Four Wave Trends. *Note:* M(F) indicates the pictured male (female) CPA.

noticeably above those for the pictured male CPA. Across the four waves, the mean instrumental score of 1.233 for the pictured female CPA is significantly greater than that of .971 for the pictured male CPA ($t = 6.66$, $p < .001$). Similarly, the mean expressive score for the female picture of .246 is significantly greater than –.092 for the male picture ($t = 8.45$, $p < .001$). These findings also indicate that perceptions of accountants are more favorable on the instrumental dimension than on the expressive dimension. The YR main effects reported in Table 5, panel C, can be seen in Fig. 3 by

noting that the extent to which the female CPA was perceived as superior to the male CPA on both dimensions was the greatest (least) for the second (first) wave. Differences in perceptions of the genders appear to stabilize in the latter two waves.

Discussion

The incorporation of the fourth wave into this longitudinal study reinforces many of the findings uncovered in the analyses of the first three waves in Enis (1998). To begin with, instrumental scores dominated expressive scores in all respects, a finding supporting the accountant's stereotype. Furthermore, similar to the second and third waves, the fourth wave showed that the pictured female CPA was more favorably perceived than the pictured male CPA regarding both instrumental and expressive traits. The influx of women into the profession noted during the mid-1980s persisted through the time of the fourth wave. The findings trace the transformation of accounting from a male-dominated profession to one that is substantially more gender balanced.

Gender remains a major factor in the sorting of individuals into occupations (Correll, 2004). However, recent research has been mixed regarding the strength of traditional gender norms (Powers & Reiser, 2005). More females choose male-typed occupations than males choose female-typed occupations (Simpson, 2005). The entry of women into accounting has outpaced the entry of women into other male-typed professions such as law and medicine (McLean & Kalin, 1994; Institute of Management and Administration, 2006). The findings of the present study are consistent with a weakening of barriers against women entering accounting that have inhibited the crossing of gender lines in other sex-typed fields.

The first wave of this study showed no significant differences in the perceptions of expressive traits of CPAs regardless of the genders of the pictures or of the respondents. The traditional accountant's stereotype was captured in the negative mean expressive scores that applied to both pictures. The 1972 wave was the only administration where the female CPA was not perceived as significantly more favorable than the male CPA on both dimensions. The 1972 wave was also the only one where the female CPA was perceived negatively on the expressive dimension. This finding is consistent with the unfavorable attitudes that existed toward women in male-typed occupations three decades ago (Yoder & Schleicher, 1996). During the early 1970s accounting was male-typed because of its largely male membership.

This heavy concentration of males was indicative of gender inequality in accounting.

Awareness of gender inequality can eventually alter traditional views (Bernstein, 2005). According to Fig. 2, from 1972 to 2002, the image of the female CPA on the expressive dimension held by both respondent groups significantly improved and became significantly more favorable than that of the male CPA, which changed little during this time. These findings are consistent with the notion that favorable reactions toward women in gender-incongruent careers can occur when females are believed to be a disadvantaged group (Sapiro & Conover, 2001). Both genders tend to develop attitudes favoring reductions in gender inequality (Cameron, 2001).

According to Inglehart and Norris (2003), awareness of gender inequality is stronger among young females. This notion is supported by the significantly more favorable mean instrumental score rendered by female respondents for the pictured female CPA in 1972 (Fig. 1). Male respondents did not perceive any significant difference between the two pictures regarding either dimension in the first wave. An inspection of Fig. 3 shows that the extent to which the female CPA was more favorably perceived than the male CPA on both dimensions was somewhat reduced following the second wave. This observation coincides with a reduction of gender inequality in accounting regarding its membership that occurred during the mid-1980s. Nevertheless, according to Table 6, perceptions of the female CPA on both dimensions remained significantly superior to those of the male CPA over the third and fourth waves.

According to Correll (2004) cultural beliefs and stereotypes that link gender and career qualifications can affect self-assessments, which lead to different gender concentrations in certain occupations. Despite accounting's early development from a "bookkeeping trade" into a predominantly male profession, this study offers no evidence of cultural beliefs that would frustrate self-assessments of competence and constrain females from aspiring to become CPAs. In none of the four waves of this study were the perceptions of the male CPA significantly superior to those of the female CPA by either gender group on the instrumental or the expressive dimension. Furthermore, although female respondents over the four waves had a higher regard for the accounting profession on the instrumental dimension, no respondent effects were observed regarding the expressive dimension. Given the findings of this study, the relatively rapid transformation of accounting from a male dominated to a more gender-balanced profession is not surprising.

The findings of this study do not support the characterization of accounting as a strictly male-typed profession in the future. Similar to the other three waves, the perceptions observed for 2002 did not align consistently with expectations based on the gender schema theories of Bem (1981) and Markus et al. (1982). To be consistent with these theories, instrumental (expressive) traits should be more closely associated with the male (female) picture. These schema-based expectations held for the expressive dimension, but not for the instrumental dimension. The more favorable perceptions of the female CPA on both dimensions repeated in 2002 is further evidence of the ''trait likableness'' effect where likable female traits dominate gender typing in both male- and female-typed professions (Arkkelin & O'Connor, 1992).[15]

Both comparisons, that is, 2002 with 1972 and 2002 with 1992, show declines in the perceptions of accountants on the instrumental dimension. The decline from 1972 to 2002 was statistically significant for the male picture, but not the female picture. The declines from 1992 to 2002 were significant and applied to both the male and the female pictures with respect to the instrumental traits. No significant changes from 1992 to 2002 occurred regarding the expressive dimension.

Although the fourth wave came on the heels of the ''Enron era'' scandals, the findings of this study cannot prove that the lower mean instrumental scores observed for the 2002 wave resulted from these events. However, the findings are consistent with reports that the scandals initially tarnished the reputation of the profession (AICPA, 2003a). In a survey of student perceptions of accountants, Fisher and Murphy (2005) noted that opinions such as ''untrustworthy'' and suggestions of unethical practices were mixed in with the stereotypical terms such as dull and uninteresting. These negative comments regarding the integrity of the profession are in sharp contrast to the very positive impressions of honesty reported in earlier surveys by Elmer Roper and Associates (1963) and Louis Harris and Associates (1986). Honesty is a trait that one would expect to be negatively affected by scandals. An inspection of Table 2 shows that mean scores on the ''Dishonest/Honest'' (V04) adjective-pair for both the male and female pictures were lower for 2002 than for any other year.[16] This adjective pair was one of the six that loaded heavily on the instrumental dimension. The raw score for V04 was significantly greater for the female picture than for the male picture not only in 2002, but also across the prior three waves. These results are consistent with those of Ameen et al. (1996) who reported that among accounting students, females had less tolerance for academic dishonesty than males. Furthermore, the individuals depicted in the media that were connected to

the scandals were male, in contrast, the individuals: Sherron Watkins, Cynthia Cooper, and Barbara Toffler, who were publicized as instrumental in exposing the abuses were female (Colvin, 2002; Toffler & Reingold, 2003).

The entry of females into the profession, despite their more favorable image relative to the negative stereotype, has not improved the overall image of accounting. If such were the case the image of the pictured male CPA would also have improved, as the profession became more gender balanced. The image of the male CPA on the instrumental dimension, although still positive in 2002, has declined significantly over the past 30 years. The negative image on the expressive dimension for the male CPA observed in 2002 did not differ significantly from that in 1972. Although one of the limitations of this study is the inability to establish cause and affect relationships, certain noteworthy associations can be observed. The influx of women into accounting relative to other traditionally male-typed occupations appears associated with the more favorable image of females in the role of accountants as compared to the stereotypical image of the profession. Nevertheless, the negative image of male accountants persists.

The accounting profession needs to continue its image-enhancing public relations campaigns aimed at young people. The radio ads produced by the AICPA and state societies with themes such as "America Counts on CPAs" are examples of such efforts (AICPA, 2003b). Symbolic interactionism emphasizes the importance of social antecedents such as peers, friends, and family in forming favorable impressions (Fine, 1990). Hunt et al. (2004) in their study of the sources of perceptions of accountants held by undergraduate students found that personal knowledge from social interactions resulted in the most favorable impressions on both the "professionalism" (i.e., instrumental) and "personability" (i.e., expressive) factors. This finding implies that providing direct personal contact with CPAs through classroom visits with students, career events, and meetings with teachers, guidance professionals, and other influential mentors should receive greater emphasis in promoting a more positive image of CPAs and a more accurate portrayal of the qualities necessary to succeed in the profession. The results of the present study suggest that female CPAs should take a greater role in public relations campaigns, especially those involving personal contacts, as women accountants are more favorably perceived than male accountants on both the instrumental and expressive dimensions. Thus, it is important that mental images of accountants evoked by young people not be restricted to male figures.

It should be pointed out that one should proceed with caution in drawing inferences beyond the participants, instruments, and time periods involved with this study. The perceptions of CPAs reported here are those of

undergraduates from one university and may not be representative of those held by other segments of society. More research is needed on the importance of perceptions in motivating highly talented individuals to aspire to be CPAs, and the extent to which gender roles can be a potential factor in the evolution of the complex image of CPAs and the accounting profession in general.

NOTES

1. Theories supporting longitudinal studies should be robust over time as the attitudes and value systems of subject pools may differ across waves. Participants in the 1972 wave of this study were ''Baby-Boomers,'' those in the 1982 wave were ''trailing-edge Boomers,'' those in the 1992 wave were from ''Generation-X,'' and subjects in the 2002 wave were from ''Generation-Y.'' ''Boomers,'' individuals born between 1946 and 1964, were a set of diverse cohorts and regarded as somewhat more liberal than the subsequent two generational groups (Hughes & O'Rand, 2004). The popular press has described ''Generation-X'' as materialistic, pessimistic, and cynical (Giles, 1994). However, Arnett (2000) in his study of young adults found such opinions to be somewhat overstated. La Ferle, Li, and Edwards (2001) studied ''Generation-Y'' and described this group as more technologically sophisticated, globally minded, socially responsible, and affluent. These young people tend to distance themselves from their parents while becoming more like their peers, and use consumer products, technology, and the media in developing positive self-images that are consistent with the behavior of those with whom they identify. In short, peer perceptions are important determinants of self-images across subject pools.

2. Holland's theory, similar to the ''looking-glass'' self-theory, has maintained its use over time. The Florida State University Career Center has the following website based on Holland's theory: http://www.career.fsu.edu/career_decision_making_tools/holland_riasec_theory.html. As of September 2006, accounting is still listed as a ''conventional'' occupation along with bankers, analysts, bookkeepers, executive assistants, industrial engineer, and other occupations requiring clerical and arithmetic abilities. This site also links to the Holland Hexagon that describes the following as conventional: ''People with clerical and math ability; prefer working indoors and organizing things; like to deal with numbers rather than people or ideas.''

3. Approximately 50 years ago, poor accessibility was a major barrier against women entering the profession, as employers were reluctant to hire female accountants (Lehman, 1992; Vigilante, 2005). However, this early antipathy to the entry of women did not result because females were believed to lack the ability to do accounting work, but resulted from perceived conflicts with travel, family issues, and client attitudes.

4. The number of females holding entry-level positions gradually increased to over 50 percent (AICPA, 1996). The percentage of female accounting graduates increased substantially between the first and the third waves, from 14 percent in 1973–1974 to 51 percent in 1991 (Stivers & Campbell, 1995). More recently, women represent 57 percent of accounting graduates and 54 percent of new-hires in public accounting firms (Vigilante, 2005).

5. Although the number of females who are members of the profession eventually reached parity with the number of males in accounting, the compensation and promotion of females did not kept pace with their entry into the profession (Schaefer & Peluchette, 1994–1995; Himelstein & Forest, 1997; Johnson, Lowe, & Reckers, 1996). However, the advancement of women in accounting firms has somewhat improved in more recent years, the percentage of those promoted to partner or shareholder who were female increased from 26 percent in 1993 to 38 percent in 1999, only to drop to 30 percent in 2004 (Vigilante, 2005).

6. For more information on the semantic differential technique, see Osgood, Suci, and Tannenbaum (1970), Nunnally (1978, pp. 608–611), Bagranoff (1990), and Houghton and Hronsky (1993).

7. The 22 bipolar scales enabled a simple one-page instrument. The 44 adjectives were compared to the 300-item Adjective Check List (Gough & Heilbrun, 1983), a self-report personality inventory that has been used in many behavioral studies; see, for example, Chatman (1991), Lowman (1991), and Brown and Joslin (1995). All the 44 adjectives (Table 2) except V05 Nonathletic/Athletic were represented in the Adjective Check List.

8. Introductory courses in the social sciences are common sources for subjects that have not had in depth courses that may sensitize them to social issues such as gender roles or advanced courses in a declared major. Also, because these courses count toward general requirements, they offer a pool of subjects with diverse backgrounds (Powers & Reiser, 2005).

9. I should point out that the naming of factors may be influenced by subjective interpretations. For example, I have identified the trait "dependable" (V01) as an instrumental one according to the results reported in Table 3. Individuals must be dependable if they are to satisfy the professional performance demanded of a career in accounting. On the contrary, one could argue that being dependable could be an expressive trait. This possibility is not totally ignored in this study. In calculating composite expressive scores, V01 is weighted by a factor loading of .1767. Also, of the six instrumental traits with a factor loading $>.5$ in Table 3, "honest" (V04) has the largest loading on the expressive dimension, .3487. This observation is consistent with an interpretation of Ameen et al. (1996) suggesting that "honesty" may share to some degree the expressive properties that are a component of the broader concept of "ethical-behavior."

10. For example, the six adjective-pairs that have factor loadings $>.5$ in Table 3 with respect to the instrumental dimension (Factor 2) are V01, V04, V12, V13, V14, and V20. These same six variables out of the set of 22 had factor rotated loadings $>.5$ regardless of whether each wave was analyzed separately, or in any combination of two or three waves.

11. Subtle changes in the meaning of words may likely occur over time. Such differences are captured in the rotated factor loadings. For example, in Enis (1998) the adjective-pair "Ultra-Liberal/Reactionary" (V06) has the following rotated loadings across the four respective factors: −.2938, .1461, −.1116, and .6182. In Table 3 of the present study, V06 has the following respective loadings: −.3825, .1683, −.1633, and .5539. The differences in these loadings reflect marginal changes in the meanings of the V06 terms from 1992 to 2002. Although the loadings differ somewhat, the important point is that the overall factor structure has not changed in that V06 loaded heavily on the fourth factor in both instances.

12. In the remaining analyses, I compare the 2002 wave with the 1972 and 1992 waves. Thus, no formal statistical comparisons are made between the 1982 wave and any of the other three waves on the expressive dimension. I would have to use the alternative specification described in Heise (1969), Bagranoff (1990, p. 74), Snowball and Collins (1980), and Enis (1998) if I were to attempt such a comparison.

13. The AICPA reported that the public image of accountants deteriorated following the collapse of Enron and other corporate scandals; however, the image of the profession had recovered almost completely by August 2003 (AICPA, 2003a).

14. Some believe that the scandals show accounting as an exciting profession with a critical role in society (Marinaccio, 2002; Rabicoff, 2002; Hunt et al., 2004). This viewpoint suggests that accounting should no longer be perceived as boring and thus be associated with an improved image on the expressive dimension. However, according to Table 6, the mean expressive score of .128 for 2002 is not significantly greater than that of .071 for 1992.

15. "Likeable" is not included among the 22 adjective pairs listed in Table 2. However, "appealing" is a synonym for likeable. The adjective-pair "Unappealing/ Appealing" (V09) loads heavily on the expressive dimension in Table 3. According to Table 2, the pictured female (male) CPA received a significantly higher mean score on the V09 pair in the 1982, 1992, and 2002 waves (1972 wave). The first wave result is consistent with Yoder and Schleicher (1996) who documented poor perceptions of women in nontraditional occupations in the 1970s. The latter three waves are consistent with the "trait likableness" effect observed by Arkkelin and O'Connor (1992).

16. Perceptions of accountants as being less honest did not make them less likeable. According to Table 2, the mean scores for the "Unappealing/Appealing" (V09) adjective-pair in 2002 were the highest for the female picture, and second highest for the male picture.

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SUSTAINABILITY REPUTATION AND ENVIRONMENTAL PERFORMANCE OR *"THE PROOF OF THE PUDDING IS IN THE EATING"*[☆]

Martin Freedman and A. J. Stagliano

ABSTRACT

The premise for this research is quite simple: Is what one sees/hears a reasonably accurate reflection of reality? When it comes to the reputation companies have with regard to sustainable development, we propose that, as Cervantes had Don Quixote say, "the proof of the pudding is in the eating."

This study is about the actual *relationship between company environmental performance – in this case, relative amounts of toxic chemical releases – and third-party judgments regarding company reputation for sustainability. Our particular concern is this: Are companies that are touted as high achievers regarding sustainable development the best*

[☆] Miguel de Cervantes, *Don Quixote*, translated by Peter Anthony Motteux, Modern Library Giant Edition, New York: Random House, 1934, p. 322.

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relative performers in their industry with respect to guarding the environment?

We studied 52 Fortune 500 companies with U.S. operations that were cited in at least one of three major international reputational listings as being high achievers for sustainable development. Matched to these highly reputable firms – based on industrial classification and size – were a similar number of firms that had not been given a "good reputation" recognition.

We find no significant difference between the firms that are reported to be engaged in best practices with respect to sustainable development and those that have no such public recognition. The 52 sample companies and their matches from the Fortune 500 population are indistinguishable with respect to environmental performance. As performance does not differ, we are led to the conclusion that perception and reality do.

The desire to maintain the earth so that future generations will be at least as well off as the current one is fundamental to the canon of sustainable development. Although acting so that future generations can be better off than the current one would be a loftier goal, achieving a no–environmental degradation goal would be a great step on the ladder to accomplishing the second. Some companies have earned a reputation as being sustainability companies. They might have promoted the good environmental actions taken, had stories in the media about their good works, or been cited by various organizations as being leaders in sustainability.

In the United States, image plays a significant role in the judgment on how companies are fulfilling their social role. Production and financial performance contribute to that role, but disclosure about noneconomic performance tends to be voluntary. Most companies will disclose only good news about their operations/outcomes and will do what they can to "spin" negative publicity so that its harm is minimized. The environmental literature has termed the act of projecting a good environmental image, but actually being a poor environmental performer, as "greenwashing."

The issue we examine is whether U.S. companies that have been deemed to be good sustainability players by some independent organization pollute less (on average) than others in the industry that have not been acclaimed as having a reputation for sustainability. If the sustainability reputable companies do not emit significantly less pollution per revenue dollar generated, then it is possible that their reputation is little more than

greenwashing – a pretty, but unclean, face that makes the company look good when, in fact, it is not.

The remainder of the chapter is structured as follows. In the next section, the background leading to the hypothesis tested is provided. The section following contains the sample selection criteria and assessment scheme. The results and analysis are presented in the next section and the conclusion in the last section.

BACKGROUND

Sustainable development ties together two themes: (1) environmental protection does not preclude economic development, and (2) economic development must be ecologically viable in both the short and the long term. Earning a reputation as a company that contributes to sustainable development may seem objectionable from a dogmatic capitalistic perspective (paraphrasing Milton Friedman and the free-market school of thought: "the only purpose of business to is earn a profit"), but it is an image that many firms covet (Unerman, Bebbington, & O'Dwyer, 2007). In a world now much concerned about climate change, exhaustion of nonrenewable resources, and detrimental health impacts of industrial pollution, being a company that can create a profit and not leave the planet worse off is deemed admirable. If all the major companies acted in such a responsible manner, the probability that future generations would be able to safely inhabit the planet will increase greatly.

Sustainable companies meet the needs of the current generation without compromising the ability of future ones to meet their own expected needs. How does a firm earn a reputation as being a sustainable company? The most progressive answer is by acting in a sustainable manner. This may include (1) operating as a green company, that is, using alternative energy sources, especially those that produce lower amounts of harmful pollution and greenhouse gases, being more efficient in energy use, and recycling so little net waste is created; (2) being careful in selecting sources of raw materials, using these materials as efficiently as possible, and doing the least environmental damage in acquiring and converting needed input factors; (3) protecting the health and safety of workers and treating them fairly in a social justice context; and (4) recognizing that the business firm is part of a community (local, regional, and global) and contributing to that community in a positive way.

Many companies are involved in some aspect of sustainability, but few can really be termed sustainability companies. A reputation for sustainability may occur because some source has deemed that a company is on the road to sustainability. The source may even be the company itself! Companies may choose to project a sustainability image because they believe that they are in fact on that road, or actually believe that they are sustainability companies. They also may project this image, based on fact or fancy, because they feel that it will lead to greater levels of profit (Little & Little, 2000).

Company self-generated sources for a sustainability reputation may include annual financial reports, sustainability/environmental/social reports, items on websites, or public relations campaigns waged in the media. Independent external sources include media reports about actual performance, reputational indices, listings in social/environmental/sustainable development investment funds, and other outlets that are more or less unrelated to, or independent of, the firm itself. Each of these sources has its own way of determining what constitutes a ''good reputation'' with respect to sustainability and environmentally conscious development activities.

In a sense, reputation is viewed as being meaningful when it can be applied in a comparative framework or context. Deephouse and Carter (2005) assert that for reputation to be consequential, we need to say that one organization has a better reputation compared to another (see, e.g., Michelon, 2008) and therefore assess it to be the better sustainability company. Thus, the application of a reputational index is a means of determining the *perceived* level of sustainability a given entity may have. The problem with using any reputational index is that it is the reality of actual performance that determines how sustainable the company is. Unless an index of reputation reflects performance with reasonable fidelity, it will be little more than a public relations tool – that same greenwashing activity described above.

Many different behaviors contribute to the attribute of sustainability. For a company that is in an industry that heavily pollutes, the amount of harmful pollution that it emits into the atmosphere is such a behavior. To have a reputation as a sustainable company while being a major polluter might be seen as a non sequitur or contradiction. However, to be fair, if the inherent nature of the production process (e.g., electric power generation, paper manufacturing, oil refining, and chemical processing) normally creates negative externalities, then just being a company that pollutes should not eliminate it from achieving the status of a sustainability company. But, not being among the leaders in the industry in reducing pollution should eliminate any company from being called sustainable

vis-à-vis the environment. Companies with a good reputation with respect to sustainable development should be among the best companies in terms of environmental performance within their industry.

On the basis of this logic, the following null hypothesis is formulated:

H_0. There is no difference in pollution performance between companies in the same industry that have a good reputation for sustainability and those with no reputation for sustainability.

If purported reputation mirrors performance, we expect companies with a good sustainability reputation to pollute significantly less than a given company from the same industry. We measure this to be volumetric output of known toxics released per dollar of revenue earned. However, if there is no difference in this pollution behavior, we conjecture that reputation was *managed* as opposed to *earned*. We propose, in this second case, that perception and reality differ.

SAMPLE SELECTION FOR STUDY

Reputation

For this study, we use three different external sources as the basis for determining highly reputable sustainability companies: Global 100, the Globescan survey of sustainability experts, and the Dow Jones Sustainability Index for North America. The need to assess reliable empirical data on emitted pollutant volumetrics restricts the study group to companies that operate in the United States. That data need also sets 2006 as the most current year for which the analysis can be conducted. Finally, to gain some assurance that like-size firms are being studied, only the world's largest public companies are considered for inclusion. Thus, if a U.S. firm is included in any of the three reputational sources, is among the Fortune 500 companies, and emits/processes/transports toxic chemicals of known volume, it is included in the sample studied here.

According to its website (www.global100.org), the Global 100 is a list of publicly traded companies that show ''superior'' ability within their industry to manage environmental, social, and governance risk factors. Although the organization claims it is not ''certain'' what constitutes sustainability, it decided that firms that show this superior ability within their industry should be termed the best sustainability companies. The Global 100 listing is

developed in three phases. First, Innovest – an investment analysis company – rates companies based on the three risk-factor criteria; those that achieve the highest scores comprise the initial sample. Companies not included in MSCI World are eliminated, as are subsidiary companies. Lastly, a group of analysts determines the final list of 100 firms for the year. In this study, we utilized the 2006 Global 100 list of companies.

Globescan is a public opinion research organization (www.globescan.com) that started operations as a company focusing on green issues. Every year Globescan surveys sustainability experts asking them about issues concerning sustainable development. In 2006 (the survey year utilized in this study), 3,018 experts were asked to complete Globescan's questionnaire; usable responses were received from 360 individual experts. One open-ended question asked of these experts was to name companies that are leaders in sustainability. All U.S. companies that were named and are among the Fortune 500 were included in our sample.

The Dow Jones Sustainability Index for North America is a compilation of companies that are considered leaders for their industry in terms of sustainable development (Dow Jones, 2009). Dow Jones asks companies to complete a questionnaire, and based on the answers, other sources, and a predetermined weighting scheme, participating companies are included in the index. The sustainability portion of the weighting scheme is composed of three major components: economic, environmental, and social. Environmental performance constitutes 7 percent of the weighting. Economic factors include code of conduct, risk factors, and corporate governance; social indicators include labor factors, corporate citizenship, and social reporting (Dow Jones, 2009).

Pollution Performance

As part of the U.S. community Right-to-Know (RTK) laws, hazardous pollution emissions are self-reported by facilities each year to the U.S. Environmental Protection Agency (EPA). These reports, that are combined to create the annual Toxics Release Inventory (TRI), are disclosed to the public by the EPA with a minimum two-year time lag. Utilizing the TRI report from July 2008 made the year 2006 data the basis for the study. All plants that emit hazardous chemical wastes must provide these reports. Included in the report are all the hazardous releases by chemical type and by destination (air, water, or land). Although the TRI includes the most dangerous and toxic types of pollution, it does not include all types.

For example, sulfur dioxide, nitrous oxides, total suspended solids, and particulates are not included in the inventory. In terms of climate change, carbon dioxide also is not included, although for electric utilities, the EPA and the public do have access to those emissions data. It is not unreasonable to suggest, therefore, that using TRI data alone as the indicator of environmental performance – as was done for the instant study – is a conservative and *lenient* method of assessing actual pollution outcomes for companies.

The RTK network has created a database in which TRI data are provided by year, plant, and company. As TRI is a facility-based collection of data, determining company-level emissions is a daunting task. This is especially true because many of the corporate owners of the plants are disguised, and therefore, tracing ownership is difficult.[1] Although RTK is not perfect in tracing ownership, the network has made major strides in creating a useful database. Thus, the RTK results may understate the amount of a company's toxic releases, but based on an analysis of the data, it appears that the network provides a good estimate of the total emissions for each firm. Again, there may well be a "tilt" toward conservatism in assessing environmental performance by using the RTK TRI data, but there is little doubt that it is the best source of data available for making this type of judgment.

The final company sample that was used for this study is composed of 52 U.S. firms that were included in at least one of the three 2006 external reputational sources described above, were part of the 2006 Fortune 500 listing, and have reported TRI data for 2004, 2005, or 2006. As the pool of firms being considered is composed of the largest industrial concerns with operations in the United States, the task of finding matches is much simplified. The matched companies, no one of which was included in any reputational source listing, were found by selecting the Fortune 500 firm from the same industry (matched by two-digit SIC code) that had the closest amount of revenues in 2006 to the targeted sample company. Size (based on revenue) and industry classification are two factors that previously have been shown to be related to the extensiveness of company-provided environmental disclosures.[2] Broadly, the sample and matches are all very large companies with revenues ranging from nearly \$2 billion to over \$200 billion. They are the biggest and most visible players in their various industries as evidenced by their inclusion in the Fortune 500 listing.

The sample firms, matched companies, toxic releases (in millions of pounds), and revenues (in billions of dollars) are summarized in Tables 1 and 2; the sample is in Table 1, with the matching company data given in Table 2.

Table 1. Sample Companies.

Sample Company	Revenues			TRI amount		
	2006	2005	2004	2006	2005	2004
3M Co.	22.923	21.167	20.011	4.000	3.970	4.200
Abbott Laboratories	22.476	22.338	19.680	0.467	0.444	0.832
Advanced Micro Devices	5.649	5.848	5.001	0.011	0.006	0.010
Agilent Technologies	4.973	4.685	4.556	0.078	0.015	0.005
Alcoa	30.379	25.568	22.609	15.900	17.500	13.400
Baxter International	10.378	9.849	9.509	0.095	0.294	0.330
Becton, Dickinson	5.835	5.415	4.935	0.230	0.310	0.314
Caterpillar	41.517	36.339	30.306	0.811	0.807	0.524
Chevron	210.118	198.200	155.300	8.000	7.700	9.800
Coca-Cola	24.088	23.104	21.742	0.002	0.000	0.004
ConocoPhillips	188.523	183.364	136.916	11.400	11.400	10.700
Constellation Energy	19.285	16.968	12.127	11.600	13.700	13.500
Cummins	11.362	9.918	8.438	0.110	0.100	0.090
Dow Chemical	49.124	46.307	40.161	13.330	12.030	13.230
Duke Energy	15.184	16.297	19.596	90.200	95.700	45.600
Eastman Kodak	13.274	14.268	13.517	4.200	5.400	4.600
Entergy	10.932	10.106	9.686	1.800	2.100	3.700
Exelon	15.655	15.357	14.133	0.419	1.050	0.843
Ford Motor Company	160.123	176.896	172.316	6.200	7.700	8.600
General Electric	163.391	147.956	134.291	1.600	2.400	0.760
General Mills	12.442	11.712	11.308	0.003	0.018	0.036
Genzyme	3.187	2.735	2.201	0.000	0.002	0.000
H. J. Heinz	9.002	8.643	8.103	0.000	0.000	0.000
Hewlett-Packard	91.658	86.696	79.905	0.000	0.000	0.001
Intel	35.382	38.826	34.209	0.129	0.127	0.218
IBM	91.424	91.134	96.293	2.712	2.983	2.776
Johnson & Johnson	53.324	50.514	47.348	0.068	0.050	0.068
Johnson Controls	32.235	27.479	24.603	0.093	0.039	0.014
Kimberly-Clark	16.747	15.903	15.082	1.066	1.345	1.170
Kraft Foods	34.356	34.113	32.168	1.358	1.268	1.152
MeadWestvaco	6.530	6.170	6.060	9.397	10.512	17.763
Medtronic	12.299	11.292	10.055	0.029	0.025	0.021
Motorola	42.879	35.262	29.663	0.000	0.016	0.050
Newmont Mining	5.987	4.352	4.326	129.592	185.404	106.139
NiSource	7.490	7.896	6.657	4.380	5.424	5.046
Noble Corp.	2.100	1.382	1.066	0.000	0.018	0.474
PepsiCo	35.137	32.562	29.261	0.476	0.684	1.123
Pfizer	48.371	47.405	48.988	5.135	1.620	2.474
Pinnacle West Capital	3.402	2.988	2.829	5.522	7.056	4.034
Praxair	8.324	7.656	6.594	0.129	0.216	0.146
Procter & Gamble	68.222	56.741	51.407	0.000	0.000	0.000
Progress Energy	9.570	9.168	8.053	41.199	44.969	42.986

Table 1. (*Continued*)

Sample Company	Revenues			TRI amount		
	2006	2005	2004	2006	2005	2004
RR Donnelley	9.317	8.430	7.156	0.265	0.028	0.742
Rockwell Collins	3.863	3.445	2.930	0.012	0.002	0.012
Schlumberger	19.230	14.309	11.48	0.004	0.004	0.003
Smith International	7.334	5.579	4.419	0.007	0.003	0.003
Texas Instruments	14.255	12.335	11.552	0.088	0.214	0.136
United Technologies	47.829	42.725	37.445	0.278	0.254	0.364
Weyerhaeuser	21.896	22.046	21.411	17.926	21.003	22.545
Whirlpool	18.080	14.317	13.220	0.719	0.796	0.799
Xcel Energy	9.840	9.625	8.216	18.182	16.490	17.228
Xerox	15.895	15.701	15.722	0.039	0.043	0.048

RESULTS AND ANALYSIS

Descriptive statistics for the matched groups' revenues are given in Table 3. Although the range of revenues is nearly the same for the two groups for each year, the reputational sample has both a larger mean and median revenue amount. A parametric *t*-test of the mean differences for the three-year average of the revenues indicates that the reputational sample revenues are statistically significantly greater (using a .05 level) than those of the matched sample means ($t = 2.08$; probability = .02). As we will compare the two samples based on a lbs/$revenue index, the disparity is mitigated. This common-size indexing has been used in several prior studies (Patten, 2002; Freedman & Patten, 2004; Freedman & Stagliano, 2008) as an indicator of the volumetric association between pollution effluents and company size when assessing financial disclosures and environmental performance characteristics of companies. We posit that two Fortune 500 companies in the same industrial classification have different environmental/sustainability performance when they have statistically significant differences in TRI-reported pounds of toxic effluents per sales dollar.

We compare the reputational sample companies and their matched components by utilizing TRI/revenue for each year of the study (2004–2006) and the average for these three years. Beyond the null hypothesis statement given previously, the common sense explanation of this index ought to be clear: the lower this index indicator, the smaller the volume of TRI-reported effluents per sales dollar. Lower or higher relative index scores are clearly indicative of "better" or "worse" relative environmental performance.

Table 2. Matched Companies.

Matched Company	Revenues			TRI amount		
	2006	2005	2004	2006	2005	2004
Honeywell	31.367	27.652	25.593	7.445	10.526	6.984
Bristol-Myers Squibb	17.914	19.207	19.380	0.303	0.225	0.255
Micron Technology	5.272	4.880	4.404	0.099	0.130	0.174
Benchmark Electronics	2.907	2.257	2.001	0.000	0.001	0.001
United States Steel	15.715	14.039	13.975	31.607	38.985	47.837
Schering-Plough	10.594	9.508	8.272	0.008	0.020	0.026
Stryker	5.406	4.872	4.262	0.000	0.000	0.002
Deere	22.148	21.191	19.204	0.647	0.553	0.464
Valero Energy	91.833	82.162	54.619	10.618	7.761	7.119
Anheuser-Busch	15.717	15.036	14.934	4.526	5.008	4.675
Sunoco	38.636	33.754	25.468	4.336	3.761	2.707
American Electric Power	12.622	12.111	14.245	100.328	101.876	98.537
Eaton	12.370	11.019	9.712	0.449	0.442	0.508
Lyondell Chemical	22.228	18.606	5.946	25.212	20.398	15.560
Dominion Resources	16.482	17.971	13.929	14.011	15.549	16.548
PPG Industries	11.037	10.201	9.513	2.920	2.595	5.988
FirstEnergy	11.501	11.358	11.600	24.404	25.315	24.485
Southern Co.	14.356	13.554	11.729	85.819	89.860	80.863
General Motors	207.349	194.655	195.351	5.886	9.672	6.459
Armstrong World	3.680	3.558	3.448	0.894	0.837	0.670
Kellogg's	10.907	10.177	9.614	0.076	0.047	0.044
Allergan	3.063	2.343	2.059	0.000	0.000	0.000
Campbell Soup	7.343	7.072	6.660	0.163	0.147	0.161
Sun Microsystems	13.068	11.070	11.185	0.000	0.000	0.000
Sanmina-Sci	10.955	11.735	12.205	0.016	0.020	0.020
Apple Computer	19.315	13.931	8.279	0.000	0.000	0.000
Wyeth Pharmaceuticals	20.351	18.756	17.358	0.181	0.034	0.039
Delphi	26.392	26.947	28.622	0.381	0.899	1.002
Smurfit-Stone	7.157	6.812	6.716	19.598	20.524	21.743
ConAgra Foods	12.028	11.482	11.384	0.241	0.315	0.396
Temple-Inland	5.558	4.961	4.848	1.083	1.176	1.406
Boston Scientific	7.821	6.283	5.624	0.005	0.016	0.030
Lucent Technologies	8.796	9.441	9.045	0.000	0.000	0.000
Phelps Dodge	11.910	8.287	6.415	86.156	50.236	40.336
Pepco	8.363	8.066	7.223	2.948	2.511	3.066
Pioneer Natural Res.	1.633	1.545	1.015	0.037	0.026	0.024
Sara Lee	15.944	16.029	15.892	0.497	0.322	0.359
Merck	22.636	22.012	22.973	0.502	0.327	0.344
Sierra Pacific Power	3.144	2.851	2.666	1.378	1.393	1.510
Rohm & Haas	8.230	7.885	7.186	1.565	1.234	3.562
Clorox	4.644	4.388	4.162	0.019	0.016	0.012
Edison International	12.622	11.852	10.199	12.195	15.870	21.378

Table 2. (*Continued*)

Matched Company	Revenues			TRI amount		
	2006	2005	2004	2006	2005	2004
Gannett	8.033	7.599	7.284	0.000	0.005	0.000
DRS Technologies	2.085	1.735	1.309	0.018	0.019	0.024
Halliburton	22.576	20.240	19.878	0.006	0.003	0.015
Baker Hughes	9.027	7.186	6.080	1.039	0.711	0.741
Solectron	10.561	10.441	11.638	0.001	0.002	0.002
Boeing Aircraft	61.530	53.621	51.400	0.076	0.412	0.907
International Paper	21.995	21.700	20.721	47.661	58.353	57.155
Emerson Electric	20.133	17.305	15.615	0.235	0.250	0.258
DTE Energy	9.022	9.021	7.069	27.370	25.627	20.312
Pitney Bowes	5.730	5.367	4.832	0.000	0.000	0.000

Table 3. Descriptive Statistics for Revenue of Sample and Matched Companies (Dollars in Billions).

	Average Revenue Amount	Median Revenue Amount	Standard Deviation	Smallest Revenue Amount	Largest Revenue Amount
2006					
Sample	35.0	16.3	47.4	2.1	210.1
Matches	18.9	11.7	30.5	1.6	207.3
2005					
Sample	33.0	15.3	46.3	1.4	198.2
Matches	17.4	11.0	28.4	1.6	194.7
2004					
Sample	29.7	13.8	40.0	1.1	172.3
Matches	15.9	9.7	27.5	1.0	195.4

As previously noted, our interest in this chapter is not in any scaled ranking of environmental performance, but in determining whether those firms that are labeled as better sustainability companies, that is, those with the reputation of being attuned to environmental needs, actually are distinguishable from those not so labeled based on actual performance. The indicator used – and, as noted above, likely a conservatively estimated one – is the common-size TRI volumetric toxics output per revenue dollar. It is a simple piece of evidence that can be effectively used in the type of cross-sectional analysis undertaken here.

Table 4. Mean Difference Test Results: TRI/Revenue Sample versus Matched Companies.

Year	*t*-Score	Probability
2006	0.098	0.46
2005	0.590	0.28
2004	0.019	0.49
Average	0.320	0.37

We ask this question with the hypothesis that was tested: Is there a detectable – and statistically significant – differentiable distinctiveness evidenced between the group of sustainability companies and the matched group that were not so designated? We find that none of the *t*-tests for a matched sample difference is statistically significant. With the *t*-statistics ranging from .019 to .590, and the corresponding significance levels from .49 to .28, we may confidently conclude that the groups do not differ with respect to the index measure. The so-called sustainable companies and their matched-within-the-industry counterparts are indistinguishable with respect to TRI-reported pounds of toxics released per dollar of sales revenues.

Table 4 presents the *t*-test results for each of three years as well as the three-year average.

Given these results, it is readily apparent that there is no difference between the pollution performance of the sample firms – purportedly the better sustainable development companies in the various industries – and their matched counterparts. Whatever reputation for sustainability these companies have garnered surely is not based on the fact that their pollution activity was significantly different from other very large companies in the industry. And, because the standardized level of effluent emission per dollar of sales revenue is not different between the matched companies, we are left to speculate about the reasons for the sustainability accolade placed on one set of sample companies and not the other. When environmental performance is not indicative of the sustainability attribute now coveted by most high-visibility industrial entities, it is not unreasonable to ask what the appropriate components of that important characteristic of corporate citizenship actually might be.

CONCLUSION

Companies that have positioned themselves to be termed sustainability companies have accomplished a major achievement from a public relations

perspective. In a world where image is important, and in which form often seems to outweigh substance in the eyes of the public, being termed a sustainability company is a coup. Unfortunately, if this is all image and little substance, then the world is not going to be better off in the future as a consequence of the sustainable development activities connected with their environmental performance.

Sustainability is a more holistic concept than has been tested in the present study. It could be that these companies have a better system of corporate governance, use their resources more efficiently, or treat their workers better. However, if the environmental performance of a purported sustainability company is not significantly different from a similar large company in the same industry, then it would seem that their designation as a sustainability company lacks meaningful substance. Although each of these other factors might constitute an "eating of the pudding," we think the significant share of the taste of sustainable development must belong to environmental protection. We find no evidence in this study suggesting companies that are vested with the title and reputation as sustainable ones are among the leaders in curbing toxic chemical waste despoliation of the environment. Their environmental performance is no better (or worse) than others in their industry. Reputational perception does not follow from the actual performance of the companies that were studied here.

NOTES

1. The actual TRI reporting form that is developed at the facility level for transmittal to EPA has a requirement for disclosure of the "ultimate" parent company. It is quite unclear whether third- or fourth-tier inferior, down-stream subsidiaries actually correctly identify the top-level corporate owner.
2. See, particularly, Patten (2002) for a discussion of the impact that company size and the nature (i.e., environmentally sensitive or not) of the industry classification tend to have on extensiveness of voluntary financial disclosures about social performance. Freedman and Stagliano (2008) provide an empirical test of the effect size has on disclosures in the EPA's Toxics Release Inventory. In the current study, differential size within the large-company grouping is neutralized through use of a standardizing technique of judging pollution performance at the indexed indicator of volumetric effluent output, from the TRI report, per dollar of sales revenue.

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A STUDY OF THE EXPECTATIONS GAP FOR NO-ASSURANCE SERVICES☆

Brian Patrick Green, Alan Reinstein and Cathleen L. Miller

ABSTRACT

Standards for Accounting and Review Services (SSARS) Number (No.) 1, "Compilations and Review Services" (AICPA, 1979), provides guidance for public accountants associated with unaudited financial statements through compilations and reviews. SSARS No. 8, "Amendment to SSARS No. 1, Compilation and Review of Financial Statements" (2000), extends this guidance to plain paper statements. *Unlike traditional compilations, plain paper statements are intended only for the use of informed members of management.*

To examine the effects of SSARS No. 8, we surveyed practicing Certified Public Accountants (CPAs) and bank loan officers to measure their perceptions of what constitute "submitted financial statements," "third parties," "informed members of management," and other key terms that aroused concerns described in SSARS No. 8 comment letters. We find that several years after the issuance of SSARS No. 8, CPAs, even those

☆Data and survey availability: Data results and survey instrument are available upon request.

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somewhat familiar with SSARS No. 8, and bankers who have experience with plain paper statements do not fully understand the definitions and applications of SSARS No. 8. In addition, several of the concerns cited in the statement's Exposure Draft (ED) comment letters linger. The results suggest the need to either better education plain paper statement users or revise the standards, perhaps prohibiting a CPA's association with plain paper statements. We also identify future research questions.

In the late 1970s, the Certified Public Accountant (CPA) profession began focusing on improving the public understanding of the CPA's relationship with financial statements. In 1974, the American Institute of Certified Public Accountants (AICPA) established the Commission on Auditors' Responsibilities (Cohen Commission) to study whether a gap existed between reasonable public expectations and auditors' performance of an audit of financial statements. The Commission identified several possible deficiencies in the auditor's report that impaired communications between auditors and financial statement users and suggested that auditors clearly communicate the purpose of any service.

During the same period, the profession noted that a gap in understanding of CPA services also existed for unaudited financial statement services such as reviews, compilations, and plain paper statements. Research showed that users of CPA-reviewed or compiled financial statements placed more reliance and confidence in these financial statements than what the CPA service actually provides (e.g., Bainbridge, 1979; Reckers & Pany, 1979). To address this misunderstanding between users and CPAs, the AICPA issued the first Statement of Standards for Accounting and Review Services (SSARS). SSARS No. 1, "Compilations and Review Services" (AICPA, 1979), offered guidance for public accountants associated with unaudited financial statements for nonpublic entities. However, SSARS No. 1 prohibited CPA association with plain paper statements. Plain paper statements are assembled financial statements intended for *informed members of management* only, that is, those who have knowledge of the company, who can put the company's financial information into context, and who understand the limitations of the financial information.

As the competition for financial services expanded in the 1980s and 1990s, more non-CPA firms (e.g., American Express Financial Services) entered the market, offering accounting and nonaudit services. To compete with these non-CPA bookkeeping and financial services firms, small to midsized CPA

firms argued against SSARS No. 1's ban on association with plain paper financial statements (e.g., Guy, Israeloff, & Hepp, 1990).

Two concerns emerged early in the plain paper debates: clients incorrectly expecting CPA assurances with plain paper statements and fears that bankers and other unauthorized parties might improperly receive and rely on such financial statements. A more recent concern is ascertaining proper procedures when clients and CPAs make changes to financial statements on personal computers and transmit them, as well as source documents, over the Internet.

To address the market demand for and the profession's concerns over plain paper financial statements, the AICPA issued SSARS No. 8, "Amendment to SSARS No. 1, Compilation and Review of Financial Statements" (AICPA, 2000). The Statement provides guidance for the preparation and submission of plain paper statements intended for internal management only.

Reinstein, Green, and Miller (2006) tested CPA's and banker's levels of confidence and reliability on assembled, compiled, and plain paper statements under six no-assurance engagement scenarios. They found that despite warnings that such statements were "for internal use only," bankers placed some reliance on plain paper statements and that CPAs and bankers placed moderate levels of confidence and reliability in no-assurance statements, especially when the CPA was known to be even minimally associated with the assembled, compiled, or plain paper statements, evidenced by an accountant's report or letter. The CPA's association with the statements appeared to add value and inspired user confidence. The 2006 study examined user's faith in the statements and their perceptions of the usefulness of no-assurance statements. The fact that bankers misunderstood the specific wording of plain paper financial statements and consequently approved loans based on reading the associated financial statements indicates that a gap exists between the expected and the actual content of these statements and that their use is misconstrued.

Unlike the prior paper, this new study examines both CPA and banker *perceptions of concepts and definitions used to apply SSARS No. 8* in practice. It examines a continuing misunderstanding of SSARS No. 8 concepts, even though the standard has been in effect for several years. We specifically examine perceptions surrounding key standard concerns described in SSARS No. 8 comment letters – such as what constitute "submitted financial statements," "third parties," and "informed members of management." We find that even CPAs somewhat familiar with SSARS No. 8 and bankers who have some level of experience with plain paper statements do

not fully understand the definitions and concepts critical to the applications of SSARS No. 8. The results suggest the need to either better educate plain paper statement users or revise the standards, rescinding SSARS No. 8 or limiting a CPA's association with plain paper statements.

Five years had passed between the issuance of SSARS No. 8 and our initial survey, and therefore, CPAs and users had time to learn the Statement's provisions. Our study focused on three questions: (1) What are CPAs' and users' levels of understanding of the Statement's definitions, issues, and limitations?; (2) Can CPAs and users properly distinguish between informed management and third parties as defined in the Statement?; and (3) Can CPAs and users properly determine what constitutes submitted financial statements as defined in the Statement?

Using content analysis on the SSARS No. 8's Exposure Draft (ED) comment letters, we developed a survey based on the concerns cited and distributed the survey to small, medium, and large CPA firms and to small, medium, and large banks in a large, midwestern city. We find that even after five years, CPAs and bankers do not fully understand the definitions and applications of SSARS No. 8. In addition, several of the concerns cited in the Statement's ED comment letters continue to cause problems. For example, while the statements are clearly marked for internal management use only, 68% of the bankers reported contact with plain paper statements.

The chapter is organized as follows. The following section summarizes the history of authoritative standards relating to compilations, reviews, and plain paper statements and discusses the relevant research. The next section describes the study's research questions and methodology. The following section presents results and analysis of the data collected through content analysis of the comment letters and administered survey. The last two sections identify the study's limitations and present our conclusions and suggestions for future research.

PRIOR RESEARCH

Professional History

Besides the Cohen Commission study of whether a gap[1] existed between public expectations and auditors' performance, early research focused on closing this gap for audited financial statements. Practitioner journals concurrently noted another gap between user perceptions and CPAs' associations with unaudited financial statements. For example, Bainbridge

(1979) found that 51% of CPAs and 64% of bankers incorrectly believed that unaudited financial statements provided sufficient evidence to ascertain that the clients' internal control system performed as prescribed. To reduce the gap found by this research and in response to the *1136 Tenants' Corporation v. Max Rothenberg & Company* (1971) matter in which the court found the CPA responsible for not detecting a financial fraud in unaudited financial statements, the AICPA (1979) issued SSARS No. 1 to provide guidance for CPA association with compilation and review engagements for nonpublic entities. Many CPAs long believed that the new standard improved the profession (Reed, Murray, & Murray, 1989).

Prior academic studies have examined the gap between the purpose and the perception of both reviewed and compiled financial statements. Most studies focused on perceived levels of assurance and financial statement reliability. Reckers and Pany (1979) and Pany and Smith (1982), for example, examined the effect of the extent of auditor involvement on the perceived reliability of an entity's interim financial statements, reporting that financial analysts found no significant differences in perceptions of reliability between audit and review engagements. Strawser (1991) found some user uncertainty about the nature of review reports, the level of assurance offered, and confidence in audits and review engagements. Similar studies, using bankers as surrogate statement users (Johnson, Pany, & White, 1983; Pillsbury, 1985; Nair & Rittenberg, 1987), showed similar results. Although users of compiled statements perceived some level of assurance that the statements conformed to Generally Accepted Accounting Principles (GAAP) and contained no errors, Yardley (1989) predicted that such perception gaps should diminish over time as users gain experience.

Prior Academic Research

Liggio (1974) first suggested that expectation gaps led to unwarranted increases in CPAs' responsibilities and additional lawsuits against accountants and recommends that the profession clarify its actual responsibilities to financial statement users, including that audit reports do not "guarantee" the accuracy of financial statements. Solomon, Chazen, and Miller (1983) extended the warning that ambiguous compilation standards would increase CPA liability. Although little recent evidence exists that CPAs suffered losses due to compilation-related lawsuits, the costs of out-of-court settlements are not publicly available (Anderson & St. Pierre, 1984). Increased CPA responsibilities and potential litigation led the AICPA to

attempt to reduce the expectation gaps by using auditing standards; however, academic research finds the standards have had mixed results. Baron, Johnson, Searfoss, and Smith (1977) found that small-firm CPAs, large-firm audit partners, corporate financial managers, bankers, and financial analysts thought Statements on Auditing Standards (SAS) Nos. 16 and 17 inadequately clarified the CPAs' responsibilities regarding detecting and reporting on clients' deliberate material falsifications, other material misstatements, and nonmaterial illegal acts. Gaps between users' understanding of service provided and actual service level create the potential for legal liability. Data may be limited on actual liability damages due to out-of-court settlements, and any legal action involves private companies who use no-assurance services. But Miller, Reed, and Strawser (1990) found that large and small bank loan officers could identify both management and auditor responsibilities under the new SAS No. 58 audit report. They characterized the standard as producing a report that was more understandable and of greater value than the prior report. Humphrey, Moizer, and Turley (1992) also noted that the expectation gap has not changed much in the United States (or United Kingdom) since the onset of company audits in the nineteenth century.

Other academic research examined various users' ability to understand the differing levels of assurance that various CPA reports and associations provide. Again, mixed results arise. Libby (1979) examined auditor/banker perception gaps for various forms of auditor reports, using a series of audit report examples, and found no significant differences between CPA and user perceptions. However, post-SSARS No. 1, Pany and Smith (1982) surveyed financial analysts' perceptions of various degrees of auditor association with quarterly data. Unlike Libby (1979), they found that financial statement users could not recognize differences in levels of CPA association between audit and review engagements. Johnson et al. (1983), considering compilation engagements and different aspects of reliability, found that bank loan officers' perceptions of levels of assurance for audits greatly exceeded those for reviews and other limited assurance engagements, and they were generally unable to distinguish among different types of limited assurance engagements. Yet, Pillsbury's (1985) study of bankers and auditors found that bankers perceived that a review of interim financial statements provided an appreciably higher level of assurance than auditors perceived, with bankers mistakenly believing that auditors performed many same year-end audit procedures for interim reviews and financial statement audits. This result indicates that users may misunderstand the nature of limited assurance engagements and place too much reliance on such engagements. Sampling

bank loan officers and audit partners, Pillsbury (1985) extended Pany and Smith's work by viewing eight different types of CPA professional services.[2] Although finding that bankers and auditors hold consistent perceptions of assurances provided by most types of CPA-associated financial statements and services, significant differences existed for financial forecasts and reviews of interim financial statements. Nair and Rittenberg (1987) also examined user perceptions of alternative types of CPA-associated reports, but they found differences for review and compilation terms and concepts, as well as some differences between bankers' and CPAs' perceptions of audit reports. Bankers placed more responsibility for financial statements on auditors (rather than on management) than did CPAs.

One potential solution to reducing expectation gaps is improved communication between clients, CPAs, and users. The literature (e.g., Bartlet, 1991; Schneider, 1995; Yardley, 1989) suggests that changes in current audit reports and better communications with clients, such as engagement letters, may reduce the perception gaps. However, Sumners, White, and Clay (1987) found that smaller firms were less likely to use engagement letters for audits, reviews, and compilations.[3] This result is important because smaller firms are more likely than large firms to provide plain paper statements for smaller clients. Mixed support exists for increased communication. Strawser (1991) warns that the accountants' report may fail to influence user decisions because users often do not consider the communicated report as information; however, Hian and Woo (1998) and McEnroe and Martens (2001) conclude that public education and additional CPA disclosures could reduce the auditing expectation gap.

Golen, Margheim, and Pany (1998) extended prior research to include assembled plain paper financial statements. Examining bank loan officers' loan application decisions, they report that placing more confidence in CPA firm–assembled statements than those that national financial services providers prepared, *who* assembled the financial statements, did not affect their opinions of whether the related financial statements were free of intentional or unintentional misstatements. Reinstein et al. (2006) show that financial statement users place some reliance on plain paper financial statements, regardless of the accountants' express statements to assign no assurance and that these statements are for "internal [management] use only." We extend these studies on plain paper statements by examining financial statement users' understanding of SSARS No. 8's crucial application definitions, particularly on what constitutes "informed management" and "submitted financial statements." With the standard in effect since 2000, we also extend prior research by assessing whether, over time,

standards improve understanding of the proper uses and limitations of plain paper financial statements, as Yardley (1989) predicted.

RESEARCH METHODOLOGY AND RESPONDENTS' DEMOGRAPHICS

We developed a survey to examine and compare bank loan officers' use and understanding of plain paper statements with those of local, regional, and national CPA firm practitioners. Survey questions focused on concerns cited in the SSARS No. 8 comment letters on the AICPA's 1999 ED and Young and Madray's (2001) examples of "informed" members of management and "submitted financial statements." Our survey focuses on CPA and bank loan officer perceptions of definitions and concerns.

Using content analysis, we examined the 85 letters commenting on the SSARS No. 8 ED. The letters represented opinions of all "Big" CPA firms, a mix of smaller firms and academics. Initially, we analyzed a random sample of 25 of the 85 comment letters, allowing us to identify "concern" variables to classify during the analysis process. The random sample of 25 letters produced nine consistent content analysis categories: *vague guidance*, *need for a new standard*, *what constitutes third parties versus informed management*, *insuring statements are for "management use only*," *accountant's level of responsibility for plain paper statements*, *defining "submitted financial statements*," *reporting versus nonreporting situations*, *understanding with the client* (*the need for engagement letters*), and *the level (assurance) of service being offered*. We then read the entire population of 85 comment letters, classifying concerns according to the content analysis coding categories. To help increase our instrument's validity, each researcher independently categorized these items, and then we reconciled any differences (which were minor). We found a high degree of reliability for the coded categories throughout the 85 comment letters, with each coder successfully classifying the comment letter concerns within these nine categories. After developing the survey, we pretested the instrument with 20 local, regional, and international CPA practitioners, users (i.e., bankers), accounting professors, and professional survey instrument developers. Table 1 reports these ED concerns in descending order of frequency.

Although most (60 out of 85) ED comment letters offered either unqualified support for SSARS No. 8 or support with concerns, 25 (30%) letters generally opposed allowing CPAs to be associated with plain paper

Table 1. Content Analysis of SSARS No. 8 Comment Letters.

Identified Issue	Frequency of Concern (%), $n = 85$
What constitutes submitted financial statements?	40
What constitutes third parties or informed members of management?	38
What reliability level of service are we offering?	33
When are there reporting versus nonreporting situations? (accountant's report)	27
How do we assure an understanding with the client? (the need for engagement letters)	18
Why do we need this new standard?	15
How do we insure "for management use only"?	14
What is the public accountant's responsibility level for plain paper statements?	11
Is the guidance too vague?	9

statements. Comments letters sought usually to limit a CPA's responsibility; define whom to consider "informed management"; what constitutes submitted "plain paper statements"; and clarify the need for an accountant's report. Although "vague guidance" appeared in 9% of the comment letters, all other categories of concern desired both concise and limiting definitions, while questioning key concepts relating to plain paper engagements. Examples of comment from the opposition letters include the following:

> I feel it may not be a wise decision by some CPA's to provide this level of service. We believe the proposed statement creates greater potential for misunderstanding. What a mess. Good bye client and hello law suit. The changes are not in the best interest of the profession. This amendment may create as many problems as it solves. The Committee in general is opposed to "plain paper financial statements." The sentiment was, "if you are going to do a compilation, do a compilation report." I am philosophically opposed to the issuance of "plain paper" financial statements under any circumstances. I strongly disagree with amending SSARS 1 to allow management use only compiled financial statements.

The most common ED concern was "defining submitted financial statements" (40%). Comments and questions referenced types of CPA firm services that could fall under SSARS No. 8, as well as electronic forms of information. Respondents wanted to limit what could be viewed as plain paper statements. The following is an example of a comment coded as "defining submitted financial statements":

> Are we really talking about a traditional set of financials compiled by the outside accountant, or can less than this be construed as submitted financial statements? If we remotely make a single AJE and the client pulls F/S from their system based on our AJE

> are these submitted F/S? What about write-up work? The standard is not current with technology. Is there a difference between 'submitted' and 'generated'? What about personal F/S?

"What constitutes third parties or informed management" was cited in 38% of the comment letters. Concerns generally focused on defining informed management, as opposed to identifying third parties. Given the potential litigation, comments and questions were asking for clarification of who would be defined as informed management. Again, respondents tried to limit those who fall under SSARS No. 8 and to whom they are responsible. The following is an example of comments coded as "what constitutes third parties or informed management":

> However, in creating financial statements for "management only" we first need to define management and assure the statements' restricted use. No one is convinced that the financial statements will only be used by management. There needs to be a distinction between third parties and management. Are these statements meant for management or just those who lack independence? Do we need to expand the definition of management?

Thirty-three percent of respondents questioned the level of service plain paper statements offered. ED respondents were concerned with offering a lower quality engagement to compete with non-CPA services. Does price competition with non-CPAs drive the acceptance of plain paper statements? Below is an example of a comment coded as level of service concerns:

> The amendment eliminates the distinction between CPAs and non-CPAs by reducing the quality of work to a less than professional level. But, we are offering a less expensive product to compete with those in related areas. Have we created "assembled" financial statements without using the term assembled? Is this a new (lower) level of service? Is this form of compilation a lower level of service (for management only)? Are we sacrificing reliability for timeliness?

We focus on the concerns that at least one-third of the comment letter respondents mentioned. Of the remaining concerns, 27% focused on defining situations requiring an accountant's report, and 18% cited a need to "assure an understanding with the client." Less frequently mentioned were the need for a new standard (15%), ensure "for management use only" (14%), accountant's responsibility (11%), and the ED offering vague guidance (9%).

The most frequent concerns cited in comment letters for the AICPA 1999 ED were defining "submitted financial statements" and "informed management," while questioning the future standard's key concepts. As in other studies, bankers served as surrogates for statement users – as bankers often use financial statement information for decision-making purposes.

Relying on these results and prior research, we asked the following three research questions:

(1) What are bank loan officers' and CPAs' levels of familiarity with SSARS No. 8's definitions, issues, and limitations?
(2) Can bank loan officers and CPAs properly identify parties as either members of informed management or third parties?
(3) Can bank loan officers and CPAs properly identify what constitutes submitted financial statements?

At two "small practitioner" professional meetings [e.g., monthly or annual continuing professional education (CPE) meetings of a state CPA Society] in a large metropolitan area, we surveyed participants who had vested interests in these issues. We obtained 111 responses from members of small, medium, and large CPA firms ("public accountants"), of which the vast majority worked for small or midsized CPA firms – and would most likely have experience and familiarity with no-assurance statements. Surveys were also sent to contact persons (usually vice presidents) from seven various sized banks. The contact persons were asked to distribute the survey to their loan officers ("bankers"). Loan officers could either send their completed surveys to their contact person (who then sent them to the researchers) or mail them directly to us. Respondents who initially returned their surveys to a contact person did so in sealed envelopes. See appendix for the survey instrument. We obtained another 48 surveys from bank loan officers. In total, we obtained 159 responses, of which 111 (70%) are male, 35 (22%) have an advanced degree above the bachelor level, and 99 (62%) are CPAs. Although none of the bankers are CPAs, a greater percentage (35.42% vs. 18.95%) of bankers have graduate degrees. The public accountants report an average of 24.8 years of public accounting experience, ranging from less than 1 to 55 years, and an average of 8.0 years of nonpublic accounting experience, ranging from 1 to 27 years. The bankers report an average of 14.8 years of banking experience, ranging from 2 to 45 years.

Respondents' areas of experience and familiarity with plain paper statements and SSARS No. 8 are presented in Table 2.[4] Public accountants were primarily involved in tax work (29%), compilations (38%), and other services (33%), spending 6% of their time working with plain paper statements. Bankers reported using compilation statements (58%), plain paper statements (17%), and other public accounting services (25%).

When directly asked about their experience with plain paper statements, public accountants report very little experience (20%) and 75% report none. Most bankers report "lots or some" experience (63%), whereas a third

Table 2. Subject Demographics: Average Percentage of Time Worked in Accounting Areas, Experience with Plain Paper Statements, and Familiarity with SSARS No. 8.

Subject Group	CPAs and Bankers Experience with Each Accounting Area[a]							Experience with Plain Paper Statements				Familiarity with SSARS No. 8 Rules			
	Audit (%)	Tax (%)	Consulting (%)	Reviews (%)	Compila-tions (%)	Plain paper statements (%)	Other (%)	None	Little	Some	Lots	None	Little	Some	Very
CPAs	6	29	4	10	38	6	7	79 (75%)	12 (11%)	10 (9%)	5 (5%)	80 (75%)	18 (17%)	7 (6%)	2 (2%)
Bankers	3	4	NA	15	58	17	3	14 (32%)	2 (5%)	13 (30%)	15 (33%)	47 (100%)	0 0	0 0	0 0

Notes: Total number of subjects = 159, total number of CPAs = 111, total number of bankers = 48, NA – information not available from survey.

[a]Represents each subject group's average percentage experience for their respective areas.

(32%) report none. Ironically, while bankers reported some experience with plain paper statements, they noted no familiarity with SSARS No. 8 (100% reported "none"). The disparity between banker's level of exposure to plain paper statements (68% have various levels of exposure to the statements) and their familiarity (0%) with SSARS No. 8 may be the single most important factor that evidences a gap between our users' perception of the standard's application concepts and its intent. No familiarity with SSARS No. 8 could explain why two-thirds of bankers report using plain paper statements, or they may perceive a cost benefit from using these no-assurance statements. However, external decisions based on financial statements intended for internal management use may lead to users' unsupported actions.

Similarly, only 25% of public accountants noted some level of familiarity with SSARS No. 8. The reported mismatch between use/experience and standard familiarity may be one source of expectation gaps. To examine this issue, we divided our CPA sample into two groups: (1) experienced (exp) CPAs – 26 subjects reporting "little," "somewhat," or "very" familiar with SSARS No. 8; and (2) non-experienced (non-exp) CPAs – 70 subjects reporting no familiarity with SSARS No. 8. As all of the bankers reported no familiarity with SSARS No. 8, these 45 subjects form the third comparison group.

RESULTS AND ANALYSES

Research Question (1): Definitions and Concerns

Part 2 of our survey asks bankers and CPAs to rate their level of agreement or disagreement (on a 7-point Likert scale where 1 = strongly disagree and 7 = strongly agree with the statement) with several statements concerning SSARS No. 8 in general, its specific effects on financial statements, and its effects on the accounting profession. Table 3 summarizes the means and standard deviations of the ratings and tests of differences between exp CPAs, non-exp CPAs, and bankers. Significant between-group differences are highlighted in italics.

Our first research question compares bank loan officers' and CPAs' understanding of SSARS No. 8's definitions, concepts, and related issues. CPAs with some familiarity with SSARS No. 8 understand the purpose and effects of the statement more than CPAs and bank loan officers, who have no familiarity with SSARS No. 8. However, these exp

Table 3. Group Means and Between-Group Comparisons for SSARS No. 8 Definitions, Concepts, and Issues.

Question	Group Means[a] [Standard Deviation] (Number of Subjects)			Univariate Tests		Significant Group Differences
	Exp CPAs	Non-Exp CPAs	Bankers	*F* Value	*p* Value	
Q1: SSARS No. 8 allows non-CPAs to issue plain paper statements, thereby bringing substandard work to the client and to the public	2.77 [1.74] (22)	3.90 [2.07] (68)	4.36 [1.35] (45)	5.67	*0.0043*	*Exp versus non-exp CPAs Exp CPAs versus bankers*
Q2: A CPA issuing plain paper reports will negatively affect the CPA's role as certified professional (as opposed to non-CPAs)	3.09 [1.65] (23)	4.21 [2.07] (70)	4.72 [1.36] (46)	6.32	*0.0024*	*Exp versus non-exp CPAs Exp CPAs versus bankers*
Q3: Allowing plain paper reports could be deceptive and lead to poor decision-making	3.27 [1.52] (22)	4.21 [1.91] (70)	4.72 [1.47] (46)	5.28	*0.0062*	*Exp versus non-exp CPAs Exp CPAs versus bankers*
Q4: Plain paper reports will end up in the hands of third parties (e.g., bank loan files, uninformed members of management, and the public)	4.91 [1.41] (22)	5.38 [1.54] (69)	4.87 [1.77] (46)	1.63	0.1999	
Q5: A CPA issuing plain paper reports will negatively affect the overall effectiveness and quality of financial statements	3.24 [1.64] (21)	4.09 [2.02] (70)	4.70 [1.53] (46)	4.78	*0.0099*	*Exp CPAs versus bankers*
Q6: SSARS No. 8 creates a new and unnecessary rule because the profession already has the tools needed to prepare such "internal-use" statements	3.90 [1.51] (21)	4.60 [1.86] (68)	4.55 [1.45] (44)	1.44	0.2413	

Q7: Allowing CPAs to issue plain paper reports brings "inconsistency" to the profession	3.87 [1.82] (23)	4.53 [2.03] (70)	4.67 [1.60] (45)	1.48	0.2311	
Q8: All material modifications of financial statements constitute "submitted" financial statements	3.89 [1.24] (19)	4.75 [1.48] (67)	4.44 [1.31] (43)	2.86	0.0611	*Exp versus non-exp CPAs (p value = .0204)*
Q9: CPAs stamping the report "for management's use only" or issuing any financial statement on their letterhead associates themselves with such reports, for example, an unknowing bank clerk, will focus only on the CPA's name as an adequate basis to process a loan	4.70 [1.58] (23)	4.80 [1.81] (70)	4.82 [1.27] (45)	0.05	0.9515	
Q10: Plain paper reports should be limited to interim reporting only	4.67 [1.53] (21)	4.64 [1.80] (70)	4.63 [1.69] (43)	0.00	0.9964	
Q11: Clients may place unwarranted reliance on plain paper financial statements	5.05 [1.12] (21)	5.04 [1.62] (69)	5.12 [1.42] (43)	0.03	0.9667	
Q12: Firms will regularly engage CPAs to issue plain paper statements, because compilations, reviews, and audits are too expensive	4.19 [1.36] (21)	4.43 [1.77] (70)	5.13 [1.27] (45)	3.76	*0.0258*	*Bankers versus exp CPAs* *Bankers versus non-exp CPAs*
Q13: Users of financial statements already have much difficulty understanding the level of assurance CPAs provide before the issuance of SSARS No. 8	5.00 [1.48] (21)	5.38 [1.56] (69)	4.64 [1.50] (44)	3.18	*0.0449*	*Bankers versus non-exp CPAs*

Note: Italics represents significant difference at a .05 significance level.

[a]Responses were reported on a 7-point Likert scale with 1 = strongly disagree and 7 = strongly agree with the statement.

CPAs do not completely understand the definitions in SSARS No. 8, as evidenced in their response to the definition of "submitted" financial statements (Q8).

First, we find that CPAs more than bankers (p value = .04) agree that users already had difficulty understanding the levels of assurances provided by CPAs, even before SSARS No. 8 (Q13). Non-exp CPAs and bankers slightly agree that SSARS No. 8 creates a new and unnecessary rule (Q6), whereas exp CPAs are neutral on this issue, but all three groups do not significantly differ from one another on this issue (p value = .24).

Second, concerning the potentially negative effects for CPAs and users arising from the issuance of SSARS No. 8, we find the following differences. Bankers perceive more significantly than CPAs (p value = .03) that firms will engage CPAs to issue plain paper statements due to the service's lower cost (Q12), but issuing plain paper statements will negatively impact the CPA's role as a certified professional (Q2; p value = .00), will negatively affect the overall effectiveness and quality of financial statements (Q5; p value = .01), and could lead to deceptive reports and to poor user decision-making (Q3; p value = .01). Bankers also perceive more significantly than CPAs (p value = .00) that SSARS No. 8 allows non-CPAs to issue plain paper statements, thereby bringing substandard work to the client and to the public (Q1). These results say that bankers perceive that SSARS No. 8 increases the issuance of plain paper statements, but these statements will lead to negative results and perceptions of CPAs.

On the contrary, CPAs are either neutral (non-exp CPAs) or disagree (exp CPAs) with these negative issues. Exp CPAs significantly disagree more than non-exp CPAs that plain paper statements will bring substandard work to the client and public (Q1), could result in deceptive reports and poor decision-making (Q3), and will negatively affect the CPA's role as certified professional (Q2) (p values = .00). Although not significantly different, exp CPAs disagree more than non-exp CPAs that plain paper statements will negatively affect the overall effectiveness and quality of financial statements (Q5). Thus, those most exp with SSARS No. 8 do not perceive that plain paper statements will lead to negative results for CPAs.

Finally, on more specific attributes of SSARS No. 8, bankers and CPAs tend to agree that (1) plain paper statements will end up in the hands of third parties (Q4); (2) the stamp "for management's use only" or the CPA's letterhead on the statements will inappropriately associate the CPA with the statements (Q9); (3) clients may place unwarranted reliance on plain paper

statements (Q11); and (4) plain paper statements should be limited to interim reporting only (Q10). These responses mimic the major concerns listed in the ED comments. In addition, bankers and non-exp CPAs tend to agree, inaccurately, that all material modifications to financial statements constitute ''submitted'' financial statements (Q8). Despite their familiarity with SSARS No. 8, exp CPAs are more neutral and only slightly disagree (mean = 3.87) with this statement, indicating their insufficient knowledge of ''submitted'' financial statements.[5]

Research Question (2): Informed Management

Our second research question asks whether bankers and CPAs can correctly classify client members as third parties or informed management per SSARS No. 8 – the second most frequently identified concern in the SSARS No. 8 comment letters summarized in Table 1. The answer is ''it depends.'' CPAs familiar with SSARS No. 8 can adequately classify knowledgeable members of management and owner/managers. Bank loan officers and CPAs unfamiliar with SSARS No. 8 can also classify knowledgeable members of management and owner/managers fairly accurately. But, all CPAs and bankers are less successful at properly classifying board members, shareholders, and management who lack financial knowledge.

We developed Part 3 of our survey from the examples of third parties and informed management used by Young and Madray (2001, p. 49). Subjects rated 11 client individuals (six scenarios) on a 7-point Likert scale where 1 = third party, 7 = informed management, and 4 = either. Items 2, 3, 5, and 6 on the scale were used to indicate a degree of strength of opinion as to whether the described individual was a third party or informed management. Table 4 summarizes the means, standard deviations, and ranges of these ratings, plus Young and Madray's correct answers. Significant between-group differences are indicated with an asterisk.

The most notable finding in Table 4 is that the means for all three subject groups are in the same direction for all 11 clients and not significantly different from one another except for four client ratings. Responses regarding ''members in management'' (scenarios 1–4) are in the correct direction, that is, closer to 1 for third party or closer to 7 for informed management, with exp CPAs' mean ratings being the closest to the correct answer. But responses for ''board members'' (scenario 5) and ''managing shareholders'' (scenario 6) are not in the correct direction, because all bankers and CPAs rated these

Table 4. Classifying Third Parties versus Informed Management.

Classification Scenario	Published Answer[a]	Exp CPAs		Non-Exp CPAs		Bankers		Between Groups *F* Value *p* Value
		Mean[2] (standard deviation)[b]	Range[2] (no. of subjects)	Mean[2] (standard deviation)[b]	Range[2] (no. of subjects)	Mean[2] (standard deviation)[b]	Range[2] (no. of subjects)	
Comparison of mean responses between groups								
1. ABC Co. is owned and managed by its sole shareholder, John. John has adequate accounting and business knowledge of his business. Classify John	7.00	6.92* (0.27)	6.0–7.0 (26)	6.64 (0.86)	3.0–7.0 (69)	6.38* (0.72)	5.0–7.0 (45)	4.63 0.0113
2. KML Co. is managed by 1 of its 10 shareholders, Jane. The other nine live out of state and are not involved in the managing of the business. Jane has adequate knowledge of the business. Classify Jane	7.00	6.79* (0.59)	5.0–7.0 (24)	6.22 (1.23)	1.0–7.0 (64)	5.91* (1.00)	4.0–7.0 (43)	5.34 0.0059
Classify the other nine shareholders	1.00	2.43 (1.42)	1.0–6.0 (26)	2.87 (1.65)	1.0–7.0 (67)	2.67 (1.34)	1.0–5.0 (43)	0.83 0.4393
3. The XYZ Co. management team consists of a president, Joe; controller, Mary; and operations manager, Sue. All three are involved in the company's financial operations and are knowledgeable about the accounting principles and practices being used. Classify Joe	7.00	6.88* (0.44)	5.0–7.0 (25)	6.61 (0.75)	2.0–7.0 (69)	6.42* (0.75)	3.0–7.0 (45)	3.38 0.0368

Classify Mary	7.00	6.88*	5.0–7.0	6.57	2.0–7.0	6.38*	4.0–7.0	3.36
		(0.44)	(25)	(0.88)	(69)	(0.75)	(45)	0.0378
Classify Sue	7.00	6.58	4.0–7.0	6.07	2.0–7.0	6.09	3.0–7.0	2.30
		(0.86)	(26)	(1.23)	(69)	(0.90)	(45)	0.1042
Comparison of mean responses to published answers and between CPAs and bankers								
4. The XYZ Co. management team consists of a president, Joe; controller, Mary; operations manager, Sue, and sales manager, Jim. Jim has no finance background and is not involved in financial decisions. Classify Jim	1.00	2.68	1.0–6.0	3.01	1.0–7.0	2.80	1.0–7.0	0.48
		(1.63)	(25)	(1.65)	(70)	(1.60)	(45)	0.6217
5. A three-member Board of Directors manages MLC Co. The chairman of the board, Tom, was an engineer for MLC Co., but no longer works for MLC Co. Classify Tom	1.00	4.28	1.0–7.0	3.60	1.0–7.0	3.39	1.0–7.0	1.60
		(2.21)	(25)	(1.98)	(68)	(1.99)	(44)	0.2058
Another board member, Bill, also works at a financial brokerage firm. Classify Bill	7.00	3.85	1.0–7.0	3.97	1.0–7.0	3.78	1.0–7.0	0.14
		(2.09)	(26)	(1.86)	(67)	(1.85)	(45)	0.8662
The third board member, Barb, works in sales at MLC Co. Classify Barb	1.00	3.88	1.0–7.0	4.22	1.0–7.0	4.47	1.0–7.0	0.86
		(2.09)	(24)	(1.74)	(68)	(1.70)	(45)	0.4257
6. GHI Co. is managed by 10 of its 250 shareholders. None of the 10 shareholders have a financial background. Classify the 10 shareholders	1.00	4.42	1.0–7.0	4.39	1.0–7.0	4.09	1.0–7.0	0.34
		(2.18)	(26)	(2.04)	(70)	(1.91)	(44)	0.7090

*Difference between groups is significant at the .05 significance level.

[a]Published answer comes from the article ''An End to the Plain paper Debate?'' by Young and Madray, (*Journal of Accountancy*, Jan. 2001, pp. 45–53).

[b]Means, standard deviations, and ranges are based on a 7-point Likert scale where 1 = third party, 4 = either, and 7 = informed management.

members as "either" (close to 4) when SSARS No. 8 defines these members as third parties or informed management.

For scenarios 1–3, CPAs familiar with SSARS No. 8 (exp) understand the differences between third parties and informed management. Their mean responses are not only close to the correct answer, but their standard deviations and range of responses also indicate understanding of the definitions.[6] However, while non-exp CPAs' and bankers' mean ratings are in the correct direction and fairly close to the correct answer, their range of responses and standard deviations raise questions as to how many subjects understand the definitions.

Scenarios 4 (sales manager), 5 (board members), and 6 (shareholders), although not significant between groups, indicate uncertainty. For these scenarios, the responses extend over the entire range from (1) third parties to (7) informed management. The resultant 1.5 through 2.5 standard deviations indicate a large spread of responses within each subsample.

To examine further the distribution of ratings, we calculated the percentage of responses for each scale measure (1 through 7) by subject group. Table 5 summarizes these calculations and resulting distributions. The data clearly show that all subjects, particularly those with familiarity with SSARS No. 8 (exp CPAs), can more accurately classify members of management [scenarios 1, 2 (Jane), and 3]. The classification ratings for sales manager (scenario 4), board members (scenario 5), and shareholders (scenarios 2 and 6) are distributed over the entire measurement scale, indicating no clear understanding of SSARS No. 8 definitions of third parties and informed management. Even those with familiarity with SSARS No. 8 could not classify these clients per the statement's definitions.

Research Question (3): Submitted Financial Statements

What constitutes "submitted" financial statements is the most frequently cited concern in SSARS No. 8 comment letters summarized in Table 1. Our third research question asks whether bankers and CPAs can correctly classify what constitutes "submitted" financial statements per SSARS No. 8. The answer is primarily yes for CPAs and no for bankers. Bankers generally (measured as simple majority) viewed all seven scenarios as submitted statements, even though physical financial statements were not handed to the client in four of the scenarios. In contrast, CPAs generally viewed only three of the seven scenarios as submitted, and all three scenarios involve handing the client a physical copy of financial statements. Bankers were

Table 5. Comparison of Scale Responses by Group to Scenarios.

Classification Scenario[a]	Published Answer[b]	No. of Subjects Responding Scale is 1–7[c]							Subject Group
		7	6	5	4	3	2	1	
1 – John	7	92	8	–	–	–	–	–	Exp CPAs
		81	12	3	3	1	–	–	Non-exp CPAs
		53	33	14	–	–	–	–	Bankers
2 – Jane	7	88	4	8	–	–	–	–	Exp CPAs
		64	14	14	6	1	–	1	Non-exp CPAs
		32	37	19	12	–	–	–	Bankers
2 – Shareholders	1	–	4	–	23	19	15	39	Exp CPAs
		1	1	13	28	7	12	36	Non-exp CPAs
		–	–	12	21	12	37	18	Bankers
3 – Joe	7	92	4	4	–	–	–	–	Exp CPAs
		73	24	1	1	1	–	–	Non-exp CPAs
		54	42	2	–	2	–	–	Bankers
3 – Mary	7	92	4	4	–	–	–	–	Exp CPAs
		73	22	1	3	–	1	–	Non-exp CPAs
		52	42	2	4	–	–	–	Bankers
3 – Sue	7	77	8	11	4	–	–	–	Exp CPAs
		54	20	14	9	–	3	–	Non-exp CPAs
		33	52	9	4	2	–	–	Bankers
4 – Jim	1	–	8	4	20	20	12	36	Exp CPAs
		4	3	10	22	20	17	24	Non-exp CPAs
		5	–	13	13	11	40	18	Bankers
5 – Tom	1	16	20	20	16	–	4	24	Exp CPAs
		10	9	15	23	6	15	22	Non-exp CPAs
		11	5	11	25	7	20	21	Bankers
5 – Bill	7	12	15	15	15	8	15	20	Exp CPAs
		12	8	24	21	9	13	13	Non-exp CPAs
		9	7	20	33	2	13	16	Bankers
5 – Barb	1	17	8	8	29	8	8	22	Exp CPAs
		13	10	18	30	9	10	10	Non-exp CPAs
		13	13	20	31	6	9	6	Bankers
6 – Shareholders	1	23	15	12	23	4	4	19	Exp CPAs
		19	17	14	20	7	6	17	Non-exp CPAs
		9	25	11	21	9	16	9	Bankers

[a]Scenario details are in Table 4.
[b]Published answer comes from the article "An End to the Plain paper Debate?" by Young and Madray, (*Journal of Accountancy*, Jan. 2001, pp. 45–53).
[c]Scale is 7-point Likert scale where 1 = third party, 4 = either, and 7 = informed management.

generally correct in one of seven scenarios, whereas CPAs were correct in four of the seven scenarios. Interestingly, the CPAs familiar with SSARS No. 8 performed no better than the CPAs unfamiliar with it.

We developed Part 4 of our survey from Young and Madray's (2001, p. 47) examples of submitted financial statements. Subjects classified seven scenarios as "yes" or "no," where "yes" means financial statements as described in the scenario are "submitted" and "no" means financial statements are not "submitted" as defined in SSARS No. 8. SSARS No. 8 broadens the definition of *submitted statements* to "presenting to a client or third parties financial statements the accountant has prepared either manually or through the use of computer software."

Table 6 summarizes the frequency and percentages of bankers' and the CPAs' ratings of "yes" and "no," plus the correct answer according to Young and Madray. The subject groups that correctly classify the scenario are highlighted in italics. Asterisks indicate any scenarios with significant differences between exp CPAs, non-exp CPAs, and bankers.

To test for correct classification, we considered an answer as correct if more than 75%[7] of the subjects in the group classify the scenario the same as Young and Madray (2001). We use a cutoff rule to mitigate any potential bias created by Young and Madray's "yes" or "no" answer format. All subjects correctly classified two scenarios – 1 and 4. Scenario 1 – the CPA prepares financial statements for the corporate tax return and does not give the statements to the client – is correctly classified as not submitted financial statements, and scenario 4 – the CPA prepares financial statements for the corporate tax return and gives the statements to the client – is correctly classified as submitted financial statements.

Slightly more than half (53%–62%) of exp and non-exp CPAs classified correctly scenarios 3 and 5. These are the only two scenarios where CPAs and bankers significantly differed (p value $< .05$), where slightly over half (60% and 69%) of the bankers incorrectly classified the scenarios. In both of these scenarios, the CPA modifies the client's accounting database through data stored on a disc (scenario 3) or by modem access (scenario 5). Per SSARS No. 8, both of these scenarios are not submitted financial statements.

Scenario 7, where the CPA prepares the financial statements for use in the corporate tax return and gives the client the statements, adjusting entries, and tax return, does not represent submitted financial statements; however, the responses of the three subject groups are mixed. Exp CPAs slightly choose the correct response (60%), non-exp CPAs are 50/50, and bankers slightly choose the incorrect response (66%).

Table 6. Comparisons between CPAs and Bankers What Constitutes Submitted Financial Statements?.

	Scenario	Published Answer[a]	Exp CPAs[b]		Non-Exp CPAs[b]		Bankers[b]	
			Yes	No	Yes	No	Yes	No
1.	Using client information, the CPA prepares financial statements in the CPA's office for use in preparing a corporate income tax return, and the financial statements are not given to the client	*No*	*5* *19%*	*21* *81%*	*15* *21%*	*57* *79%*	*9* *20%*	*36* *80%*
2.	At a client's office, the CPA makes material adjustments to the clients' accounting database, prints the adjusted financial statements, and takes the financial statements with him or her to the client's office	No	21 81%	5 19%	50 69%	22 31%	35 78%	10 22%
3.	The client sends the CPA a disc containing the information from the client's accounting database. The CPA makes adjustments to the disc and returns it to the client	No*	*11* *42%*	*15* *58%*	*34* *47%*	*38* *53%*	31 69%	14 31%
4.	Using client information, the CPA prepares financial statements in the CPA's office for use in preparing a corporate income tax return, and the CPA gives the client a copy of the financial statements along with the income tax return	*Yes*	*26* *100%*	*0* 0%	*64* *89%*	*8* *11%*	*41* *93%*	*3* 7%

Table 6. (*Continued*)

	Scenario	Published Answer[a]	Exp CPAs[b]		Non-Exp CPAs[b]		Bankers[b]	
			Yes	No	Yes	No	Yes	No
5.	The CPA accesses the client's accounting database by modem and makes material modifications to the database	No*	*10* *38%*	*16* *62%*	*30* *43%*	*40* *57%*	27 60%	18 40%
6.	At a client's office, the CPA makes material adjustments to the clients accounting database, prints a copy of the financial statements, and presents them to the client	No	22 88%	3 12%	63 88%	9 12%	39 89%	5 11%
7.	Using client information, the CPA prepares financial statements in the CPA's office for use in preparing a corporate income tax return, and the CPA gives the client a copy of the adjusting journal entries and trial balance with the income tax return	No	*10* *40%*	*15* *60%*	36 50%	36 50%	29 66%	15 34%

Notes: Total number of subjects varied by scenario: 25–26 exp CPAs; 70–72 non-exp CPAs; 44–45 bankers. Italics – scenarios the subjects correctly classified.

*Represents significant difference (at a 10% significance level) between group responses ($p < .10$). Chi-square values for logistic analysis from categorical data modeling procedure.

[a]Published answers come from the article "An End to the Plain paper Debate?" by Young and Madray, (*Journal of Accountancy*, Jan. 2001, pp. 45–53).

[b]Percentage frequency of respondents within each group.

Finally, all three subject groups largely classify scenarios 2 and 6 incorrectly as submitted financial statements when they are not per SSARS No. 8. In both of these scenarios, at the client's office, the CPA makes material adjustments to the client's accounting database, prints the financial statements, and keeps the statements (scenario 2) or gives the statements to the client (scenario 6).

LIMITATIONS

Our current study has several limitations. Our sample was limited to attendees at CPE meetings and responses from bank offices concentrated in one area of a midwestern state. The nonrandom sample impairs our ability to generalize the results beyond our sample. However, we feel there are several reasons that support our sample as representative of the population. First, the conferences themselves were held in a large midwestern city; the assembly represented a wide variety of CPAs and banking firms. Second, our CPA respondents represent mostly regional and local firms, who would most likely have exposure to engagements relating to no-assurance engagements. However, the banker respondents represent various small, medium, and large institutions. The conference setting also ensured a nearly 100% response rate, reducing potential nonresponse bias.

Another limitation is our moderate sample size, especially bankers ($n = 48$) who represented our bank loan officer group. (However, prior studies used as few as 25 banker respondents.) A moderate sample size could limit the power of our statistical tests, biasing against significant results.

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

The accounting profession believed that time and experience would diminish the expectation gap for limited and no-assurance engagements. Despite Yardley's (1989) prediction, our results indicate that conceptual misunderstandings and improper use still exist for plain paper financial statements, despite the many years that have elapsed since SSARS No. 8 went into effect. Data for the study were collected from SSARS No. 8 ED comment letters and surveys of CPAs and bank loan officers. The comment letters identified concerns regarding what constitutes informed management, third parties, and submitted financial statements, as well as familiarity with the standard's conceptual definitions and limitations.

We asked whether bank loan officers and CPAs understand SSARS No. 8's concepts and can properly apply key definitions of informed management, third parties, and submitted financial statements. Our respondents fell into one of three groups – CPAs with some familiarity of SSARS No. 8; CPAs having no familiarity with SSARS No. 8; and bankers, who all reported no familiarity with SSARS No. 8.

We find that CPAs familiar with SSARS No. 8 do not perceive the standard as leading to negative effects for CPAs, the profession, and users; are able to distinguish between third parties and informed management better than the other CPAs and bankers, but only for members of management, not for board members and shareholders; and are no better at determining submitted financial statements than the other CPAs and bankers. Bankers perceive the most negativity associated with SSARS No. 8; are able to distinguish between third parties and informed management better than non-exp CPAs; and are the worst at identifying submitted financial statements.

Our findings support the concerns raised in the ED comment letters. Respondents had the most difficulty determining "submitted" financial statements as defined in SSARS No. 8. This concern was the most often cited one in the ED comment letters (40%). The respondents properly classified members in management only as "third parties" or "informed management"; they did not properly classify board members and shareholders. This concern was the second most cited concern in the ED comment letters (38%).

We also find that bankers and CPAs unfamiliar with SSARS No. 8 expect CPAs to now provide more plain paper statements (because of lower cost) that will end up in bank loan or other third-party files, which will result in negative effects for the CPA, the profession, and the public. These results support the third most cited concern in the ED comment letters (33%) – what reliability level of service are we providing with these plain paper statements? With plain paper statements in many bankers' hands (see question 4 in Table 3), they may be persuaded by the information even when CPAs explicitly deny any attestation role. Such misinterpretations of the purposes and limitations of SSARS No. 8 reports and other no-assurance engagements may lead to their improper use and incorrect decisions, putting capital provider's resources at risk.

We find that even after five years, users and preparers of plain paper statements do not understand fully the definitions and provisions of SSARS No. 8. The concerns identified and supported in this study imply that CPA and user education is needed to increase understanding and application of

SSARS standards. Although CPAs somewhat familiar with SSARS No. 8 understood some of the standard's definitions and provisions, they did not completely understand them and could benefit from more education. Both the AICPA and the American Bankers Association can make significant contributions to this education effort. To further educate clients and third parties, CPAs should establish a clear understanding (e.g., by using proper engagement letters) with their clients in all limited and no-assurance engagements. Future research could study how to best increase CPAs', bankers', and other key users' understanding and use of plain paper statements.

Our results also identify a major concern for standard setters. Standards should provide guidance for preparers and users of financial statements. Our study shows that the SSARS No. 8 standard either is not getting out to the affected parties or the affected parties do not see the benefits outweighing the costs of the standard. Our findings raise more questions for future research, such as, Why are users and preparers of plain paper financial statements unfamiliar with SSARS No. 8?; Do some standards, such as auditing standards, receive more attention than others, such as SSARS standards, when they are issued?; and Why do the auditing standards seem to be understood sooner after adoption than SSARS standards?; each of these questions leads directly to the relative effectiveness of various sources of standards. Although standard setters may draft a statement meant to correct and clarify an issue, SSARS No. 8 does not appear to reach its intended effect. Instead of offering guidance for a CPA's association with limited-use financial statements, it has created an engagement product whose use cannot be controlled. Further empirical research on SSARS No. 8 and other standards could help standard setters develop, clarify, and disseminate more effectively future guidance for reviews, compilations, plain paper statements, and other limited or no-assurance engagements. Meanwhile, mechanisms should be developed to ensure that limited-use statements do not go beyond their intended users.

A minority view in this study is to rescind SSARS No. 8, no longer allowing a CPA's association with plain paper statements, thereby eliminating an expectation gap; 25 of the 85 (30%) ED comment letters opposed the standard allowing CPAs to be associated with plain paper statements. Our data found slight agreement that the plain paper statement standard creates an unnecessary rule. Bankers believe that SSARS No. 8 could lead to substandard work. CPAs most exp with the standard believe that SSARS No. 8 could produce both deceptive reports and poor user decisions. Although the intended user of the engagement is "informed

management,'' most respondents have difficulty applying the concept. Finally, even if all concepts and definitions were applied properly, plain paper statements could still reach third-party users' hands for decision-making, as actually occurred with several banker respondents.

NOTES

1. The term ''expectations gap'' came into vogue in the late 1980s, with the issuance of SAS nos. 53–61.

2. The eight CPA professional services were interim reviews of public entities, compilations of nonpublic entities, contract compliance, supplementary information, standard audits, condensed financial statements, agreed-upon procedures, and reviews of financial forecasts.

3. This practice may well soon change, in light of the issuance of SAS No. 108 (2006) that now requires all practitioners to issue engagement letters or similar contracts for all audits.

4. In some cases, both CPAs and bankers reported more than one area of experience.

5. We discuss the issue of defining submitted financial statements in more detail in a later research question.

6. Smaller standard deviations represent less variation in responses. Likewise, smaller ranges indicate less variation because responses use only part of the measurement scale, not the whole scale.

7. We considered several cutoffs for the correct answer. A 50% cutoff has the potential for half of the respondents' answers being wrong, whereas 100% was an unreasonable absolute. We compromised at 75%.

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APPENDIX SURVEY INSTRUMENT

Experience with Plain Paper Statements SSARS No. 8

[CPA version of page 1 of survey]

PART 1: About the Participant (demographics)

1. Which category best describes your primary profession?

   Public Accounting – Audit_____ Public Accounting – Tax_____ Public Accounting – Other_____
   Corporate Accounting _____ Internal Auditing_____ Other_____

2. What are your academic degrees and/or professional certifications?

   BBA/BS _____ MBA_____ MSA_____ MAS _____
   Other Accounting-Related Masters _____ Other Masters_____ PhD_____
   Other Degrees_________________________

   CPA_____ CMA _____ CIA_____ CFE_____ CFA_____ Other_____

3. How many years of experience do you have in:

   Public Accounting_____ Nonpublic Accounting_____

4. What is your current title? ____

5. Gender: Male_____ Female_____

6. What percent of your personal work involves: (The sum of the percentages must equal 100%)

   Audit_____ Review_____ Compilations_____ Plain Paper Statements_____ Tax_____
   Consulting_____ Other_____

7. How much experience do you have with issuing plain paper financial statements?

   No experience (none issued) _____
   Little experience (issued once or twice) _____
   Some experience (issued a few times) _____
   Lots of experience (issued many times) _____
   Extensive experience (issued frequently) _____

8. How familiar are you with the new SSARS No. 8 rules?

   Not familiar (no exposure to SSARS No. 8) ______
   A little familiar (read SSARS No. 8 but not issued any reports under it) ______
   Somewhat familiar (issued at least one report under SSARS No. 8) ______
   Very familiar (issued several reports under SSARS No. 8) ______

Experience with Plain Paper Statements SSARS No. 8

[Banker version of page 1 of survey]

PART 1: About the Participant (demographics)

1. Which category best describes your primary profession?

   Public Accounting – Audit_____ Public Accounting – Tax_____ Public Accounting – Other_____
   Corporate Accounting _____ Internal Auditing_____ Bank Loan Officer _____ Other_____

2. What are your academic degrees and/or professional certifications?

   BBA/BS _____ MBA_____ MSA_____ MAS _____
   Other Accounting-Related Masters _____ Other Masters_____ PhD_____
   Other Degrees_________________________
   CPA_____ CMA _____ CIA_____ CFE_____ CFA_____ Other_____

3. How many years of experience do you have in:

   Accounting_____ Banking _____

4. What is your current title? ____

5. Gender: Male_____ Female_____

6. What percent of your personal work involves using these types of financial statements: (The sum of the percentages must equal 100%)

   Audited_____ Reviewed_____ Compiled_____ Plain Paper Statements_____ Other_____

7. How much experience do you have with using plain paper financial statements?

   No experience (none used) _____
   Little experience (used once or twice) _____
   Some experience (used a few times) _____
   Lots of experience (used many times) _____
   Extensive experience (used frequently) _____

8. How familiar are you with the new SSARS No. 8 rules?

   Not familiar (no exposure to SSARS No. 8) ______
   A little familiar (read SSARS No. 8 but not used any reports under it) ______
   Somewhat familiar (used at least one report under SSARS No. 8) ______
   Very familiar (used several reports under SSARS No. 8) ______

PART 2: General Questions about SSARS No. 8

The following statements ask about your level of agreement with a variety of statements concerning SSARS No. 8. Please circle the number that indicates your level of agreement/disagreement, where *7 is "strongly agree SA," 1 is "strongly disagree SD," and 4 is "neither agree nor disagree."*

	SD			N			SA
		Please circle one					
1. SSARS No. 8 allows non-CPAs to issue plain paper statements, thereby bringing substandard work to the client and to the public.	1	2	3	4	5	6	7
2. A CPA issuing plain paper reports will negatively affect the CPA's role as certified professional (as opposed to non-CPAs).	1	2	3	4	5	6	7
3. Allowing plain paper reports could be deceptive and lead to poor decision-making.	1	2	3	4	5	6	7
4. Plain paper reports will end up in the hands of third parties (e.g., bank loan files, uninformed members of management, and the public)	1	2	3	4	5	6	7
5. A CPA issuing plain paper reports will negatively affect the overall effectiveness and quality of financial statements.	1	2	3	4	5	6	7
6. SSARS No. 8 creates a new and unnecessary rule because the profession already has the tools needed to prepare such "internal-use" statements.	1	2	3	4	5	6	7
7. Allowing CPAs to issue plain paper reports brings "inconsistency" to the profession.	1	2	3	4	5	6	7
8. All material modifications of financial statements constitute "submitted" financial statements.	1	2	3	4	5	6	7
9. CPAs stamping the report "for management's use only" or issuing any financial statement on their letterhead associates themselves with such reports. For example, an unknowing bank clerk will focus only on the CPA's name as an adequate basis to process a loan.	1	2	3	4	5	6	7
10. Plain paper reports should be limited to interim reporting only	1	2	3	4	5	6	7
11. Clients may place unwarranted reliance on plain paper financial statements.	1	2	3	4	5	6	7
12. Firms will regularly engage CPAs to issue plain paper statements, because compilations, reviews, and audits are too expensive.	1	2	3	4	5	6	7

APPENDIX (*Continued*)

	SD			N			SA
				Please circle one			
13. Users of financial statements already have much difficulty understanding the level of assurance CPAs provide before the issuance of SSARS No. 8.	1	2	3	4	5	6	7

PART 3: What Constitutes a Third Party or Informed Management?

Please classify the following parties as third parties, informed management, or constituting elements of each. Please classify each example by circling a number, ranging from *7 is "definitely informed management," 4 "can be viewed as informed management or third party," and 1 is "definitely third party."*

	Third Party			Either			Informed Management
1. ABC Co. is owned and managed by its sole shareholder, John. John has adequate accounting and business knowledge of his business. Classify John.	1	2	3	4	5	6	7
2. KML Co. is managed by 1 of its 10 shareholders, Jane. The other nine live out of state and are not involved in the managing of the business. Jane has adequate knowledge of the business. Classify Jane.	1	2	3	4	5	6	7
Classify the other nine shareholders.	1	2	3	4	5	6	7
3. The XYZ Co. management team consists of a president, Joe; controller, Mary; and operations manager, Sue. All three are involved in the company's financial operations and are knowledgeable about the accounting principles and practices being used. Classify Joe.	1	2	3	4	5	6	7
Classify Mary.	1	2	3	4	5	6	7
Classify Sue.	1	2	3	4	5	6	7

APPENDIX (*Continued*)

	Third Party	Either					Informed Management
4. The XYZ Co. management team consists of a president, Joe; controller, Mary; operations manager, Sue, and sales manager, Jim. Jim has no finance background and is not involved in financial decisions. Classify Jim.	1	2	3	4	5	6	7
5. A three-member Board of Directors manages MLC CO. The chairman of the board, Tom, was an engineer for MLC Co., but no longer works for MLC Co. Classify Tom.	1	2	3	4	5	6	7
Another board member, Bill, also works at a financial brokerage firm. Classify Bill.	1	2	3	4	5	6	7
The third board member, Barb, works in sales at MLC Co. Classify Barb.	1	2	3	4	5	6	7
6. GHI Co. is managed by 10 of its 250 shareholders. None of the 10 shareholders have a financial background. Classify the 10 shareholders.	1	2	3	4	5	6	7

PART 4: What Constitutes a Submitted Financial Statement?

Please classify the following scenarios as to whether they constitute a "submitted financial statement," by checking the appropriate "Yes" or "No" box.

Scenario	Yes	No
1. Using client information, the CPA prepares financial statements in the CPA's office for use in preparing a corporate income tax return, and the financial statements are not given to the client.		
2. At a client's office, the CPA makes material adjustments to the clients accounting database, prints the adjusted financial statements, and takes the financial statements with him or her to the client's office.		
3. The client sends the CPA a disc containing the information from the client's accounting database. The CPA makes adjustments to the disc and returns it to the client.		
4. Using client information, the CPA prepares financial statements in the CPA's office for use in preparing a corporate income tax return, and the CPA gives the client a copy of the financial statements along with the income tax return.		

APPENDIX (*Continued*)

Scenario	Yes	No
5. The CPA accesses the client's accounting database by modem and makes material modifications to the database.		
6. At a client's office, the CPA makes material adjustments to the clients accounting database, prints a copy of the financial statements, and presents them to the client.		
7. Using client information, the CPA prepares financial statements in the CPA's office for use in preparing a corporate income tax return, and the CPA gives the client a copy of the adjusting journal entries and trial balance with the income tax return.		

DOES EQUITY COMPENSATION INDUCE EXECUTIVES TO MAXIMIZE FIRM VALUE OR THEIR OWN PERSONAL WEALTH?

Theresa F. Henry

ABSTRACT

In late 2008, a crisis of unprecedented proportion unfolded on Wall Street that called for the government bailout of institutions. Although the crisis wreaked havoc on the lives of firm stakeholders and taxpayers, many of the executives of these rescued firms received bonus compensation as the year closed, which called into question the relationship between pay and performance. Equity compensation is viewed by many as the answer to the principal–agent dilemma. By giving an executive stock in the firm, as an owner, his interests will now be aligned with those of shareholders, and the executive will work to enhance firm performance. Equity compensation was on the rise during the 1990s when stock options became the largest component of executives' compensation packages [Murphy, K. J. (1999). Executive compensation. Handbook of Labor Economics, 3, *2485–2563]. During the first decade of the new millennium, usage of restricted stock in compensation plans contributed to the executives' total package. Whatever the form, equity compensation should induce managers to make decisions for the betterment of the firm.*

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Empirical evidence, however, has contradicted this ideal notion that mangers who are partial owners of the firm work to maximize firm value. Rather, managerial power in the form of earnings management and manipulation of insider information come to the forefront as a means by which executives can maximize the equity portion of their compensation packages. The Sarbanes–Oxley Act of 2002 as well as new accounting rules set forth by the Financial Accounting Standards Board may help to remedy some of the corporate ills that have surfaced in the past. This will not be possible, however, without compliance and increased corporate governance on the part of firms and their executives. Compensation committees must take great care in creating a compensation package that incites the executive to not only act in the best interest of his firm but also consider the welfare of the common good in his actions.

INTRODUCTION

Executive compensation has come under intense scrutiny over the past several years and ever more so in the face of the financial crisis that unfolded in late 2008. Are such exorbitant levels of executive compensation warranted or is it merely a wasting of precious corporate assets? With the government rescuing many firms in the financial service sector, the domain of stakeholders has expanded to include not only firm shareholders, employees, pensioners, customers, and suppliers but also the millions of taxpayers across the country that are funding the enormous bailout packages. Several of the firms receiving government assistance have topped the charts of executive pay in recent years, which calls into question the relationship between pay and performance. Incentive compensation, including cash bonuses and equity compensation, is intended to induce the executive to enhance firm performance. Such compensation, however, can create other unintended incentives that are not always in the best interest of the firm. This chapter focuses on the equity portion of the executive's compensation package and asks the question: does equity compensation induce executives to maximize firm value or their own personal wealth?

Before the financial crisis hit Wall Street, Congress, the Securities and Exchange Commission (SEC) and the Financial Accounting Standards Board (FASB) had responded to shareholder concerns with corporate legislation and accounting rules. The Sarbanes–Oxley Act (SOX) of 2002 has had a profound effect on corporations and calls executives to task for

corporate abuse. With respect to equity compensation, reporting requirements by insiders make manipulation of stock option grants on the part of executives and stock option backdating considerably more difficult. An accounting rule now in effect that requires the granting of stock options to be recognized as an expense on the income statement has changed the way corporations pay their executives. These measures, however, still did not prevent the latest financial crisis from developing. Even with heightened corporate governance, many executives continued to act irresponsibly and yet were compensated handily for their actions.

Stakeholders are fighting back and want a voice on executive compensation. Congress voted 2 to 1 in April 2008 for "say on pay," requiring firms to let shareholders vote on executive compensation (Ribstein & Butler, 2008). In November 2008, New York state's attorney general asked nine U.S. institutions that received $125 billion in federal funding as part of the Treasury Department's Troubled Asset Relief Program for further and better particulars on their executive compensation plans (Krishna, 2008). Among the most active stakeholders are union pension funds. Groups from several funds have submitted resolutions seeking restrictions and restraints on bonuses, severance, stock options, and retirement benefits for executives (Tuna, 2009).

Although figures for corporate bonuses fell somewhat for 2008 with many executives declining their year-end bonus in an attempt to save face with shareholders, Wall Street bankers still received an estimated $20 billion in bonus pay. Newly elected President Barack Obama called the bonuses "shameful" in light of the taxpayer funds being spent to save such firms. President Obama, a sponsor of the "say on pay" bill as a Senator, announced a plan in early 2009, which calls for the top five executives at banks that get an infusion from the government to be restricted from offering golden parachutes (i.e., rich severance packages), and in addition, any compensation above $500,000 will not be tax deductible to the company (Andrews & Bajaj, 2009).

Compensation committees face a great challenge in structuring a compensation package that will not only retain executives but motivate them to strive for the success of their firms. Two competing theories with regard to executive compensation are agency theory and managerial power theory. Agency theory contends that by giving a manger shared ownership in the firm, that manager will make decisions that are in the best interest of the firm and its shareholders. Managerial power theory views compensation as part of the problem in that a manager with power over its board of directors can influence the terms of his own compensation package and also make decisions that maximize his compensation.

Empirical research has provided significant evidence in support of the latter theory. Executives both manage earnings and use private insider information to time stock transactions, so that they can maximize their own personal wealth through compensation. Although it is impossible to completely prevent executives from making decisions that are not in the best interest of shareholders, it is hoped that these current and future legislation will help thwart proclivity toward corporate excess and wrong-doing. Compensation committees must be keenly aware of the pitfalls of incentive compensation, particularly equity compensation, when designing executive pay packages. The executive must be motivated to create an atmosphere within his firm where there exists concern for the common good, so that stakeholders will not suffer as a result of their actions.

COMPETING THEORIES

Agency Theory

According to classical agency theory (Jensen & Meckling, 1976; Ross, 1973), the *principal* engages the *agent* to perform a service whereby the agent is given decision-making authority. This relationship holds for shareholders and executives. Shareholders engage executives through the board of directors to act on behalf of the firm to maximize firm value through various decisions and actions that are part of the executive's service. As such, there is a separation of ownership (by the principal) and control (by the agent). This situation gives rise to the principal–agent problem in which there exists some divergence between the decisions that are made by the agent and the decisions that would maximize the welfare of the principal (i.e., firm value).

The principal–agent problem diminishes in the presence of managerial ownership since there is no longer a complete separation of ownership and control. Therefore, an executive holding stock in the firm he acts as agent for will make decisions that will maximize firm value. The extent of an executive's ownership will affect the decisions he makes. The greater his proportion of ownership in the firm, the greater will be his efforts to make utility maximizing decisions on its behalf.

The principal–agent relationship is based on the contract between the two parties. The contract should be designed to induce the agent to act in the best interest of the firm and its shareholders. As it relates to an executive and shareholders, that contract is a compensation contract formulated by the compensation committee of the board of directors. A contract that is based

on outcomes (e.g., equity compensation) will be more likely to induce the agent to act in the best interests of the principal as opposed to a contract that is based on goals (e.g., cash salaries). The focus of the principal–agent relationship is determining the optimal contract (Eisenhardt, 1989), which serves to attract, retain, and motivate the executive. Studies have shown that firm performance is positively related to the extent of executives' equity compensation (Hamid, 1995), that stock option grants are associated with future earnings payoffs (Hanlon, Rajgopal, & Shevlin, 2003), and that executive stock option grants have value implications for firm performance (Lam & Chng, 2006).

Managerial Power Theory

An alternative approach in examining executive compensation views executive compensation as not only a means for addressing the agency problem but also a part of the problem itself. The managerial power theory contends that there are some features of compensation contracts that reflect managerial opportunism and influence rather than providing incentives for value maximizing behavior by managers. The powerful manager has influence over the board of directors and uses that power to extract excess compensation. Not only will managers with more power have greater compensation, the compensation will be less related to performance than for a manager with lesser power (Bebchuk, Fried, & Walker, 2002; Bebchuk & Fried, 2003). Since there has historically been a weak association between managerial performance and nonequity compensation, equity compensation comes to the forefront as a means of hopefully linking compensation with performance (Bebchuk & Fried, 2003).

Managerial power should be mitigated by strong corporate governance. The key role of board of directors is to foster firm value and prevent executives from making decisions that are not in the best interest of the firm. There are several features of boards that have been shown to counteract managerial power including the separation of the chief executive officer (CEO) and board chair positions (Desai, Kroll, & Wright, 2003; Petra & Dorata, 2008): a board that is independent of senior management (Linck, Netter, & Yang, 2006), a board with financial and industry expertise (Jensen, 1993), and the size of the board of directors (Jensen, 1993; Yermack, 1996; Petra & Dorata, 2008).

Another mitigating force that hinders managerial power and specifically extraction of excess compensation is "outrage" costs. Outrage costs are the

costs of embarrassment or harm in reputation to executives as a result of a proposed arrangement. With regard to compensation, there is evidence that such outrage by outsiders influence compensation contracts. Jensen and Murphy (1990) cite the public disclosure of executive compensation as one reason that the board of directors cannot more effectively link pay to performance. Research in this area has found that CEOs of firms who received negative attention with regard to compensation experienced a decrease/smaller increase in pay compared to other firms (Thomas & Martin, 1999; Johnson, Porter, & Shackell, 1997). Despite shareholder pressure, however, compensation levels overall steadily increased during the 1990s (Johnson et al., 1997; Murphy, 2002).

CASH BONUS COMPENSATION

Executive compensation mainly consists of cash salary, a cash bonus that may/may not be based on short- and long-term performance goals, and equity compensation that is tied in with long-term incentives. Cash bonuses and equity compensation are both forms of incentive compensation because they are contingent on executive performance. For the firm, cash bonuses are treated like regular cash salary in terms of their accounting treatment. The cash bonus is salary expense to the firm in the period in which it was earned.

Bonuses are often based on some internally or externally reported earnings threshold that, if met, will result in a greater bonus for the executive. Accounting data are used as performance measures because they are thought to be more reliable given the intense scrutiny of internal controls throughout the preparation of the financial statements (Indjejkian, 1999). In addition, incentives that are based on earnings performance shield the executive from market fluctuation in firm value that are beyond his control (Sloan, 1993). Davila and Penalva (2006) find that compensation contracts in firms with higher takeover protection and where the CEO has more influence on governance decisions put more weight on accounting-based measures of performance (return on assets) compared to stock-based performance measures (market returns).

Earnings management occurs when managers use judgment in financial reporting and/or in structuring transactions to alter reported accounting numbers. Discretion over certain accruals (the difference between cash flows from operations and net income) gives the manager some leeway in the amount of net income that will be reported. For earnings management to be

effective, investor reaction to the discretionary accruals must be such that the market price of stock increases with income-increasing discretionary accruals and decreases with income-decreasing discretionary accruals. Several studies have provided evidence that the market attaches value to discretionary accruals and reacts in the form of stock price increases and decreases (Subramanyam, 1996; Sloan, 1996; Paek & Press, 1998; Beneish & Vargus, 2002; Xie, 2001; Collins & Hribar, 2000).

The majority of academic research to date has focused on detecting whether and when earnings management takes place and what is motivating the earnings management (Healy & Wahlen, 1999). A major reason why executives manage earnings is to improve their compensation. Much of the executive compensation earnings management literature has tested the bonus portion of the compensation package since bonuses are often based on a performance measure that incorporates accounting earnings.

Healy (1985) predicted and found evidence that managers would opportunistically manage net income so as to maximize their bonuses under the firms' compensation plans. In Healy's sample, not all schemes have caps (upper limit), although they all have bogeys (lower limit). Below the bogey, the bonus is zero. If there is no cap, the bonus continues linearly upward. When there is a cap, the bonus becomes a constant after that point. If net income is low (below the bogey), the manager has an incentive to lower it even further, called taking a bath. The probability of receiving a bonus the following year is then increased. Similarly, when earnings go above the cap, there is motivation to reduce income to the cap level and, in effect, save "excess earnings" for future periods. Only when net income is between the bogey and cap, the manager is motivated to adopt accounting policies and procedures to increase reported net income.

McNichols and Wilson (1988) studied the behavior of accruals in a bonus context. They limited their investigation to the provision for bad debts, on the grounds that a precise estimate of what the bad debts allowance should be (i.e., nondiscretionary acrrual) can be made. They found, over the period 1969–1985, discretionary bad debt accruals were significantly positive (i.e., income reducing) for firm years that were both very profitable (i.e., above the caps) and very unprofitable (i.e., below the bogeys). For firm years between these extremes, discretionary accruals were much lower and usually negative, consistent with Healy's results.

Gaver, Gaver, and Austin (1995) extended Healy (1985) by examining the relation between discretionary accruals and bonus plan bounds. Contrary to Healy, they find that when earnings before discretionary accruals fall below the lower bound, managers select income-increasing discretionary accruals

and vice-versa. They believe their results are more consistent with the income-smoothing hypothesis than with Healy's bonus hypothesis. Holthausen, Larcker, and Sloan (1995) also studied managers' accruals behavior for bonus purposes. They found that managers who were at their bonus maxima managed accruals so as to lower earnings, consistent with Healy's results. They did not find, however, that managers who received a zero bonus also used accruals to manage earnings downward. Guidry, Leone, and Rock (1999) test the bonus-maximization hypothesis that managers make discretionary accrual decisions to maximize their short-term bonuses. They find evidence consistent with Healy (1985). The literature largely suggests that executives do manage earnings to increase their own cash bonus compensation.

EQUITY COMPENSATION

Equity compensation gives the executive ownership in the firm that he stewards. Therefore, according to agency theory, the executive will work to the best of his ability because the success of the firm in the form of increased share price will also serve as a personal financial gain to him. The most common forms of equity compensation are stock options and restricted stock. A stock option gives the employee the right to purchase stock (i.e., exercise the option) in the firm at a predetermined price, called the exercise price. Stock options are subject to a vesting period that will restrict the amount of options that can be exercised until a certain period of employment has elapsed.

A stock option can be "at the money" (exercise price of option is equal to the market price of the stock), "in the money" (exercise price of option is less than the market price of the stock), or "out of the money" (exercise price of option is greater than the market price of the stock) at any give time. Restricted Stock is a grant of company stock in which the employee's rights to the stock are restricted until the shares vest (i.e., restrictions lapse). Employees own the stock once the vesting period has elapsed. The accounting and tax rules for both forms of stock compensation are complex and affect the executive's compensation package and the way in which he will transact shares in his firm's stock.

Accounting Rules

The FASB set forth Statement of Financial Accounting Standard No. 123[1] (SFAS123), "Accounting for Stock Based Compensation," which became

effective for financial statements issued for fiscal years beginning after December 15, 1995. This statement introduced a fair value approach to accounting for stock option compensation. Before that date, Accounting Principles Board Opinion No. 25 (APB No. 25), "Accounting for Stock Issued to Employees" had been the prevailing guidance on accounting for stock options. APB No. 25 followed an intrinsic value-based method whereby compensation cost is measured as the excess of the market price of the stock at grant date over the exercise price of the option. For that reason, many firms granted options with an exercise price equal to the stock price on the date of grant, thereby avoiding the recognition of any compensation cost (e.g., no expense on the income statement).

SFAS123 allowed firms to continue using the intrinsic value method; however, it required that companies *disclose* their pro forma net earnings and earnings per share using the fair value method. Under the fair value–based method, compensation cost is measured at the grant date based on the value of the award and is recognized over the service period, which is usually the vesting period. For stock options, the fair value is determined using an option pricing model (e.g., Black–Scholes) and includes factors such as the stock price on the grant date, the exercise price, the expected life of the option, the volatility of the underlying stock, etc. in deriving the fair value of the option. This fair value is not subsequently changed should any of the factors change over the vesting period. Statement Financial Accounting Standard No.123(R)[2] (SFAS123R), "Share Based Payment" became effective for most firms issuing financial statements for fiscal years beginning after June 15, 2005. SFAS123R required companies to use the fair value method in accounting for equity compensation rather than simply disclosing the pro forma effects of such.

Until SFAS123R became effective, firms benefited from the favorable accounting treatment bestowed on stock options that made them a popular form of equity compensation. The granting of restricted stock as compensation, on the contrary, has always had an income statement impact. When a firm grants restricted stock to its employees, it must record compensation expense equal to the fair value of the restricted stock awarded. The fair value of restricted stock is measured as the market price of nonrestricted stock on the grant date and must also incorporate an estimate of the shares that will be forfeited by those employees that leave the firm before the vesting period has elapsed. Previously, firms could choose to exclude the estimate of forfeitures from the fair value calculation; however, it is now a requirement under SFAS123R.

Tax Rules

Two types of stock options that firms can issue to their employees are incentive stock options (ISOs) and nonqualified stock options (NSQs). With an ISO, there are restrictions on how the option is to be structured and when the option stock can be transferred. The employee does not recognize ordinary income at option grant or exercise, but only upon the disposition of the stock. The tax treatment upon disposition of the underlying shares depends on whether the shares were disposed of in a qualifying disposition. A qualifying disposition occurs when an employee sells stock underlying an ISO more than two years after the option was granted and more than one year after the option was exercised. If an employee disposes of the shares in a qualifying disposition, he would be taxed as capital gain on the difference between the exercise price and the sale price of the stock. If the employee does not dispose of the stock in a qualified disposition, he will be taxed as (1) ordinary income on the difference between the exercise price and the fair market value of the stock at the date of exercise and (2) capital gain on the difference between the fair market value at the date of exercise and the disposition proceeds. Capital gains bear a lower tax rate than ordinary income.[3]

For NSQs that are the more prevalent form granted, employees must record as ordinary income the difference between the market price and the exercise price on the date of exercise. Employees will also be taxed on any increase in the value of the stock from the date of exercise to the date of sale. If the employee holds the stock for 12 months or more after the date of exercise, the increase is taxed as a capital gain, otherwise it is taxed as ordinary income.[4]

Restricted stock awards are also not taxed at the date of grant. The employee is taxed once the shares have vested and all restrictions have lapsed. The income that is taxed is the fair market value of the stock on the date of vesting less the amount paid for the grant, if any. An exception to this rule is the Setion 83(b) election that allows the employee, within 30 days of receiving the restricted stock grant, to treat the stock as if it is not restricted (e.g., not subject to forfeit) and include it in income immediately. The income to be taxed is the fair value of the stock at the grant date less the amount paid for the grant, if any. If the employee sells the stock in a subsequent period, gains or losses in the stock's value receive capital treatment (Knoll, 2005).

Managerial Incentives

Ultimately, an executive wishing to maximize his compensation will have varying incentives with regard to the share price of his firm's stock. With respect to stock options, the eventual compensation derived will be greater if the exercise price is low and the selling price of the underlying shares is high. Before SFAS123R, the exercise price was generally set equal to the market price on the date of grant, so that firms could avoid recording any compensation cost under the intrinsic value method. An executive would therefore wish to be awarded a stock option grant when the stock price is low to maximize his compensation. The practice of granting at-the-money stock options has continued even after SFAFS123R came into effect.

The executive's motivation at the date of exercise varies depending on how quickly he plans to sell the underlying shares of his option. An executive holding NSQs would wish the stock price to be low at the date of exercise and high by the date of sale. This minimizes the amount of ordinary income the employee must recognize. Alternatively, an executive who plans to sell his shares immediately after exercise, perhaps driven by liquidity constraints or diversification needs, would wish the stock price to be high at the date of exercise and sale, thereby maximizing his compensation. Ofek and Yermack (2000) find that higher-ownership managers tend to sell almost all of the shares exercised immediately for diversification purposes.

An executive who has been granted restricted stock and elects Section 83(b) treatment may also wish the stock price to be low at the date of grant and high by the date of sale to minimize the ordinary income recognized. If the executive has not made that election, he would wish the stock price to be low at the date of vesting and high by the date of sale to minimize the ordinary income recognized and maximize his compensation.

Empirical Evidence

The academic literature is replete with empirical evidence indicating that executives have actively "managed" their firms' stock price or timed stock transactions to coincide with opportune movements in that stock price. In many cases, particularly when there is a decrease in the firm's stock price and, therefore, firm value, the interests of managers and shareholders are not aligned. Equity compensation, therefore, may not have the intended

consequence of inducing executives to make value maximizing decisions on behalf of the firm.

Earnings Management

How does an executive "manage" his firm's stock price? A primary vehicle is earnings management through the management of discretionary accruals. In recent years, research has increasingly focused on earnings management with respect to equity compensation. Bergstresser and Philippon (2006) find that the use of discretionary accruals to manage earnings is more pronounced for those firms whose CEO's potential total compensation is more closely tied to the value of stock and option holdings. In addition, during years of high accruals, CEOs exercise unusually large numbers of options and CEOs and other insiders sell large quantities of shares.

Burns and Kedia (2006) compare S&P 1,500 firms that announce a restatement of their financial statements over the period 1995–2002 with those firms that do not restate. They find that the sensitivity of a CEOs option portfolio to stock price is significantly positively related to the inclination to misreport accounting numbers. The authors do not find that the sensitivity of other components of CEO compensation, that is, equity, restricted stock, long-term incentive payouts, and salary plus bonus have any significant impact on the propensity to misreport.

Burns and Kedia (2008) also examine financial statement restatements and whether managers realize potential stock gains occurring from their accounting choices. They find no significant evidence of higher option exercises by executives in the misreported years. However, for firms that are more likely to have made aggressive accounting choices, they find significant evidence of higher option exercises. For such firms, option exercises are higher by 20–60% in comparison with industry and size-matched nonrestating firms. Options exercises by executives, not just the CEO and chief financial officer (CFO), are also increasing in the magnitude of the restatement as supported by the effect of the restatement on net income.

Much research has specifically examined earnings management at the date of option grant. Gao and Shrieves (2002) find that the dollar values of stock options granted and bonuses awarded, and the incentive intensity of stock option awards are positively related to earnings management intensity measured as the absolute value of annual discretionary current accruals scaled by asset size. Salaries are negatively related to earnings management intensity. They show that magnitudes of the effects of some compensation variables on earnings management intensity are conditional on whether discretionary current accruals are positive or negative.

Baker, Collins, and Reitenga (2003) find evidence that high option compensation is associated with income-decreasing discretionary accruals in periods leading up to option grant dates. Furthermore, they find that this association is stronger when managers are able to announce earnings publicly before the option award date. Balsam, Chen, and Sankaraguruswamy (2003) find a negative relation between discretionary accruals and subsequent stock option grants. Their results support the hypothesis that executives manage earnings to decrease the exercise price before the stock option grants.

Several studies have also examined earnings management at the date of option exercise and/or sale of underlying shares. Ke (2004) finds that CEOs with high equity-based incentives (stock and stock options) are more likely to manage earnings to report longer earnings strings. In addition, CEOs with high equity-based incentives sell significant amounts of stock in approximately two to six quarters before a break in an earnings string. This combined evidence suggests that equity-based incentives encourage CEOs to manage earnings to increase short-run stock prices, so that they can cash out their portion of equity holdings at inflated prices.

Kadan and Yang (2005) study the effect of the grants of executive stock options and restricted stock on earnings management and insider trading during the vesting years of these grants. The empirical tests focus on the link between the timing and the attributes of option grants and the extent of earnings management and insider trading. The authors find evidence that (1) deeply in-the-money executive stock options lead to more earnings management and insider trading at the vesting years of the options; (2) more grants of options intensify the extent of earnings management at the vesting years; and (3) earnings management and insider trading are more prevalent when stock prices are high due to high past returns.

Efendi, Srivastava, and Swanson (2007) examine financial statement restatements announced in 2001 or 2002, a period when equity was particularly overvalued. The authors compare firms that announced a restatement to a control sample matched on industry, size, and time. They find that the most influential factor affecting the likelihood of a misstatement is whether a CEO has a very sizable amount of in-the-money stock options. Another pertinent factor increasing the likelihood of misstatement is whether the CEO also holds the position of board chair.

Cheng and Warfield (2005) hypothesize that stock-based compensation incentives contribute to the use of accounting accruals for earnings management purposes, so that executives can increase the value of shares to be sold. They find that the magnitude of annual abnormal accruals is positively

related to the magnitude of stock-based compensation, and they document a lower association between the earnings and returns of firms with higher stock-based compensation. They conclude that stock-based compensation leads to incentives for earnings management such that managed earnings are less useful to market participants.

McVay, Nagar, and Tang (2006) hypothesize that the positive market reaction to just meeting an analyst forecast creates a favorable environment for managers planning to sell their stock, thus prompting them to exert additional effort to meet the analyst forecast. Consistent with this prediction, the authors find that the likelihood of just meeting versus just missing the analyst forecast is strongly associated with subsequent managerial stock sales. Bauman and Shaw (2006) show that the propensity to meet or exceed analysts' quarterly earnings forecasts is positively related to the use of options in top executives' compensation plans. In addition, the authors find that firms that employ relatively more options in their compensation plans more frequently report earnings surprises that exceed analysts' forecast by small amounts. These results suggest that the use of stock-based compensation increases the concentration on short-term analysts' forecasts on the part of executives.

Meek, Rao, and Skousen (2007) study the factors affecting the relationships between CEO stock option compensation and earnings management. Regression results find a positive relationship between CEO stock option compensation and discretionary accruals implying that earnings management is more likely where stock options are a larger part of CEO compensation. The authors also find that the relationship between stock options and earnings management has intensified in recent years and that stock options exacerbate earnings management in firms with growth opportunities. All these studies provide overwhelming evidence that executives have managed earnings to affect the stock price so as to maximize their compensation.

Insider Trading

Executives can also maximize their compensation by using private information to time stock transactions to coincide with favorable movements in the firm's stock price. The SEC lays the framework for firms to develop corporate compliance policies to ensure that they will comply with insider trading regulations. Under the Insider Trading and Securities Fraud Enforcement Act of 1988,[5] a firm itself may become liable for civil penalties (and be exposed to shareholder lawsuit) as a controlling person of an employee or director who trades on the basis of undisclosed material inside information. Therefore, many companies institute "trading windows,"

periods during which insiders are allowed to trade, and/or "blackout periods," periods during which insiders are not allowed to trade. It is the firm's responsibility to institute such compliance policies to ensure that it adheres to SEC insider trading regulations. A great deal of research has been devoted to the trading behavior of executives and insiders in general.

Many studies examine insiders' use private information to determine the optimal timing of their transactions involving stock granted as compensation. Yermack (1997) looks at how corporate managers can influence the terms of their own compensation by managing the timing of their stock option awards. He looks at 620 stock options awarded to CEOs and finds that the timing coincides with favorable movements in company stock prices. The patterns of companies' quarterly earnings announcements are consistent with an interpretation that CEOs receive stock option awards shortly before favorable corporate news.

Aboody and Kasznik (2000) look at whether CEOs manage the timing of their voluntary disclosures around stock option awards. They conjecture that CEOs manage investors' expectations around award dates by delaying good news and rushing forward bad news. For a sample of 2,039 CEO option awards by 572 firms with fixed award schedules, they document changes in share prices and analyst earnings forecasts around option awards that are consistent with their conjecture. This indicates that executives are making opportunistic decisions to maximize their stock option compensation.

Chauvin and Shenoy (2001) study abnormal stock price changes before executive stock option grants. They hypothesize that executives have the incentive to temporarily decrease the stock price on the day of option grant to decrease the exercise price. They contend that executives can affect the stock price by manipulating the timing of good news and bad news: putting forth bad news before the grant and good news after the grant. They look at abnormal returns during the 10-day period before stock option grant for 783 option grants to chief executive officers. They find a statistically significant decrease in stock prices during this time period, with most of the decrease occurring during the 3 days immediately preceding the grant date.

Lie (2005) looked specifically at the timing of good news and bad news in conjunction with the timing of grants in the pre-SFAS123R regime. The author documents that abnormal stock returns are negative before unscheduled executive option awards and positive afterward. He also finds that predicted returns are abnormally low before the awards and abnormally high afterward. The results suggest that at least some of the awards are timed retroactively. Overall, these studies support the contention

that executives either (1) affect the stock price by manipulating the timing of good news and bad news, putting forth bad news before the grant and/or good news after the grant, or (2) time the granting of a stock options to occur after the release of bad news and/or before the release of good news.

Several studies also suggest the use of private information to time executive stock option exercises. Carpenter and Remmers (2001) study the use of private information around stock option exercise. Specifically, they look at whether corporate insiders use private information to time the exercise of their executive stock options. Before May 1991, insiders had to hold the stock acquired through option exercise for six months. They find that exercises from that regime precede significantly positive abnormal stock performance suggesting the use of inside information to time exercises. They conclude that executives time the exercise to maximize their return during the holding period. In contrast, they find little evidence of such timing in the post-May 1991 regime when insiders could sell acquired shares immediately. One reason they cite for this is that because insiders can now sell acquired shares immediately; option exercises are like sales in that they allow insiders to reduce their exposure to their firm's stock. Consequently, they may be driven mainly by diversification or liquidity needs.

Bartov and Mohanram (2004) find that the timing when executives exercise options predicts stock return future performance. The authors also find that in the period before abnormally large exercises, total accruals and discretionary accruals, but not nondiscretionary accruals are abnormally high and that total accruals and discretionary accruals but not nondiscretionary accruals reverse in the postexercise period. These findings are consistent with their hypothesis that in an effort to increase cash payout from option exercises and sales of acquired shares, management opportunistically inflate earnings through accruals management in the period leading up to the abnormally large exercises.

Brooks, Chance, and Cline (2007) find evidence that executives use private information in exercising stock options. The most informed executives exercise early, exercise after the vest date rather than at the vest date, do not exercise in anticipation of dividends, exercise a high percentage of their options, sell a large proportion of acquired stock, and exercise and leave the firm. They also find that higher-ranked executives show significantly greater exploitation of private information than do lower-ranked executives. Overall, these studies find that stock option exercises follow abnormal positive earnings performance and/or precede abnormal negative earnings performance.

With regard to sale of stock, Ke, Huddart, and Petroni (2003) find evidence that insiders trades occur as long as two years before economically

significant accounting disclosures. Stock sales by insiders increase three to nine quarters before a break in a string of consecutive increases in quarterly earnings. In addition, insider stock sales are greater for growth firms, before a longer period of declining earnings, and when the earnings decline at the break is greater. Taken together, the earnings management and insider trading literature provide a wealth of evidence, which indicates that equity compensation does not necessarily provide executives with the incentive of aligned interest as intended.

CASH BONUS VERSUS EQUITY COMPENSATION

Agency theory focuses on the optimal compensation contract and finding the right blend of salary, bonus, and equity to appropriately incentivize executives to act in the best interest of the firm. The question is, what is the right blend? Equity compensation is far more complex than cash bonus compensation with respect to the motivation that it provides to executives. For an executive to maximize his equity compensation, there are more factors involved than simply meeting a predetermined earnings threshold. Equity compensation by its nature should serve to align the interests of managers and shareholders through shared ownership. The notion of shared ownership does not exist for cash bonus compensation. Which component of the compensation contract is the most preferable? Which component provides the strongest and most appropriate motivation to executives?

The pay for performance academic literature focuses on the relationship between executive performance and compensation. Bebchuk (2005) finds that, during the period 1993–2003, executive pay has grown much beyond an increase that could be explained by changes in firm size, performance, and industry classification. He estimates that if the relationship of compensation to size, performance, and industry classification remained the same in 2003 as it was in 1993, mean compensation in 2003 would have been only about half of its actual size. He also finds that equity-based compensation had increased considerably in both new-economy and old-economy firms, but this growth had not been accompanied by a reduction in nonequity compensation.

Jackson, Lopez, and Reitenga (2008) find a highly significant relationship between accounting fundamentals and both bonus omissions and bonus reductions. When earnings are negative or declining, they find that the relationship between aggregate earnings and bonus compensation is weak or insignificant in most of their tests. They conclude that bonus compensation is more closely tied to firm performance than given credit for and that even

when earnings are poor, bonus compensation can be partially explained by other favorable accounting fundamentals.

Daily and Dalton (2002) examine whether executive or director equity is related to firm performance. The authors find no evidence of a systematic relationship between equity and firm performance when considering several different measures of both variables. Sanders (2001) finds that the benefits of long-term compensation (i.e., equity compensation and other long-term incentive plans) flowed primarily to CEOs as they received significantly greater levels of total compensation than CEOs in firms that emphasized year-end pay adjustments (i.e., cash salary and bonus). In addition, firms that emphasized year-end pay adjustments performed significantly better than firms that were heavy users of long-term forms of contingent compensation.

More recently, the Watson Wyatt's 2008/2009 analysis on executive pay indicates a greater relationship between pay and performance perhaps in response to the SOX and/or the intense scrutiny surrounding executive compensation. The study found that, for the first time in years, executives at companies with better performance were granted larger pay opportunities than their counterparts at lesser performing companies. The study also reveals that companies granting riskier compensation packages, a heavier mix of stock options with higher stock price volatility, tend to grant higher total compensation (Newswire, 2008).

As stock prices plunged in the past year, the value of prior year stock awards has also plunged. Without a huge market rally, many executives now know they may never profit from their stock options or restricted stock grants (Steverman, 12/5/08). Most stakeholders contend that executives should not receive cash bonuses in the aftermath of this financial crisis. If anything, give these executives equity compensation, which would ideally incentivize them to revitalize the firms that have come close to ruin. Empirical evidence, however, has generally not supported this notion of agency theory. Equity compensation does not always provide the appropriate incentives to executives and firms that grant high levels of equity compensation often do not, in turn, reap the reward of enhanced performance.

RECENT TRENDS

Stock Option Repricing

One practice that is heavily criticized for distorting managerial incentives is option repricing. Repricing an option means that the exercise price of

options that are out of the money are reset, so that the options are back in the money. Ideally, employees are given stock options to provide an incentive to maximize firm value resulting in an increased share price. Repricing the option removes the risk to employees of losing their stock options and also removes the incentive to maximize firm value. The executives are, in effect, being rewarded for poor performance. Carter and Lynch (2001) find that firms reprice options in response to poor firm-specific performance, not poor industry performance as many firms would contend.

An alternative argument is that repricing stock options maintains retention incentives. Executives holding stock options with a vesting period have a long-term interest in the firm and are motivated to stay with the firm and work to maximize its value. If the stock options held by executives are out of the money, then the executive loses that incentive, and it becomes less costly to leave the firm for a competitor (Core, Guay, & Larcker, 2003). Studies have shown that firms that have more restrictive policies regarding repricing stock options are more prone to executive turnover following a decrease in stock price (Chen, 2004). Balsam and Miharjo (2007) show that the value of executive equity holdings is inversely related to voluntary executive turnover.

The 1998 announcement by the FASB that repricing options would result in an expense on the income statement resulted in a flurry of repricing activity in the days before the proposed effective date (Carter & Lynch, 2003). Callaghan, Saly, and Subramaniam (2004) find that stock option repricings are systematically tied to coincide with favorable movements in stock price, with sharp increases in stock price in the period following the repricing. They also find that stock option repricing tends to either precede the release of good news by the firm or follow the release of bad news. This is consistent with studies performed on stock option grants, which find that stock options are granted when stock prices are at a low point, which in turn will keep the exercise price low to maximize executive compensation.

Stock Option Backdating

Stock option backdating is the practice of marking the stock option grant document with a date that precedes the actual date of grant. For those firms that have continued the practice of granting executives at the money stock options even after SFAS123R, executives can benefit from backdating a stock option to a date on which the market price of the firm's stock was lower. The backdating of stock options is legal provided that no documents

are forged, the backdating is communicated clearly to shareholders, and the backdating is reflected properly in earnings and taxes (e.g., compensation expense is appropriately adjusted) (Lie, 2006). These procedures, unfortunately, are not always followed, and earnings restatements often result. The revelation of "inappropriate" backdating likewise has a detrimental impact on the market value of firm and ultimately to shareholders (Narayanan, Schipani, & Seyhun 2007).

During the period 1996 through August 2002, 23% of unscheduled at the money option grants were backdated or otherwise manipulated. This figure is cut in half after the more stringent insider reporting requirements of the SOX Act took effect. SOX Section 403[6] amends Section 16 of the Securities Exchange Act of 1934 by requiring any insider (office, director, or owner of 10% or more of equity) to report any change in ownership before the close of the second business day following the day of the transaction. Previously, insiders were required to notify the exchange of any transaction in firm stock by the 10th of the month following the day of the transaction. Backdating should be effectively eliminated, if executives comply with this new reporting requirement.

Heron and Lie (2007) find that the abnormally negative stock return pattern before (and abnormally positive stock return pattern after) executive option grants is much weaker since the SOX requirement took effect. The pattern completely disappears for the sample of grants that are reported within 1 day of the grant date; however, it continues to exist for grants reported with longer lags with the magnitude of the pattern increasing with the length of the lag. Similarly, Narayanan and Seyhun (2005) contend that the SOX requirement has curtailed but not eliminated stock option backdating and managerial influence. Firms with weaker governance structures (i.e., powerful CEOs) are more likely to backdate stock options and the practice is even more prevalent when options are a large part of the CEO compensation (Collins, Gong, & Li, 2007). Combined, these studies indicate that stronger board of directors and tighter enforcement of the 2-day reporting requirement by the SEC will reduce managerial power.

Stock Options versus Restricted Stock

Although stock option compensation continued to grow throughout the 1990s, as the new millennium began, stock option grants declined and restricted stock grants were on the rise (Conyon, 2006; Hall & Murphy, 2003). The effect of expensing stock options as per SFAS123R should not

have had an effect on companies' compensation plans. The pro forma expense effects of stock option grants were required to be disclosed in the footnotes to the financial statements for the past several years. A proponent of market efficiency would argue that this information was already impounded into stock prices. Consistent with this belief, the adoption of SFAS123R has not resulted in any significant decrease in stock prices (Carter, Lynch, & Tuna, 2007).

Compensation committees, however, are reacting to the new expense on the income statement by shifting away from stock options and toward restricted stock. The Controllers' Leadership Roundtable survey showed that some 39% of responding companies changed their use of options as compensation as a result of SFAS123R with 61% citing that they had reduced or eliminated the use of options at all levels. 44% of responding companies increased their use of restricted stock and of the 33% of responding companies that had previously not granted restricted stock to employees, more than half began using it post-SFAS123R (Balsam, O'Keefe, & Wiedemer, 2007).

Carter et al. (2007) find that firms reduced their option use and increased their restricted stock use once they began to expense options; however, there is no decrease in total compensation. Brown and Lee (2006) examine equity compensation post-SFAS123R and find that firms that cut back on stock option compensation experienced larger improvements in operating performance. The authors also show that firms are more likely to replace stock options with restricted stock but not with other forms of compensation. The movement away from stock options should alleviate some of the earnings management and insider trading incidents since there will be less concern over "managing" the exercise price of the stock option grant. Frequency of option repricing should also be significantly reduced.

Sarbanes–Oxley and Compensation

The SOX Act of 2002 came in reaction to the failure of Enron and other firms that had clearly been mismanaged. SOX instituted a number of provisions that would hold executives more accountable for the firms entrusted in their care. Two such provisions are: Section 302, the CEO and CFO of each issuing firm shall prepare a statement to accompany the audit report to certify the "appropriateness of the financial statements and disclosures and that those financial statements and disclosures fairly present, in all material respects, the operations and financial condition of the issuer," and Section 304, if an issuing firm is required to prepare a restatement due

to "material noncompliance" with financial reporting requirements, the CEO and the CFO shall "reimburse the issuer for any bonus or other incentive-based or equity-based compensation received" during the 12 months following the issuance or filing of the noncompliant document and "any profits realized from the sale of securities of the issuer" during that period.[7] Consequently, executive behavior has changed in response to this greater accountability, and academic research has documented a change in firm and executive behavior in the post-SOX regime.

Carter, Lynch, and Zechman (2009) examine and find support for the joint hypothesis that the implementation of SOX and related reforms led to a decrease in earnings management and that firms responded by placing more weight on earnings in bonus contracts, hypothetically to encourage effort. They find no evidence that firms changed compensation contracts to compensate executives for assuming more risk. Cohen, Dey, and Lys (2008) document that accrual-based earnings management increased steadily from 1987 until the passage of SOX in 2002, followed by a significant decline after the passage of SOX. They also document that the accrual-based earnings management activities increased particularly in the period immediately preceding SOX and that such increases were concurrent with increases in equity-based compensation.

Cohen, Dey, and Lys (2004) examine the effects of the SOX regulatory changes on compensation contracts of CEOs and their effect on risk taking subsequent to SOX. They find that although overall compensation did not change, salary and bonus compensation increased and option compensation decreased following the passage of SOX. The sensitivity of CEOs' wealth to changes in shareholder wealth also decreased after SOX. Their results indicate that the pay for performance sensitivity of CEO compensation has declined following SOX. These studies suggest that the punitive provisions of SOX have deterred executives from managing earnings in the face of dire consequences. The benefits derived from these provisions are difficult to quantify, and many have called for a repeal of SOX in light of its enormous costs. Such costs include implementation and additional reporting costs for U.S. issuers and the opportunity cost of losing companies, who chose not to be burdened by SOX, to foreign exchanges.

CONCLUSION

The biggest compensation issue facing corporate boards may not be defending post-financial crisis bonuses or keeping executives long-term but

how best to pay executives in the future. How do compensation committees design future compensation packages to be sure they can get the best performance out of executives as the financial crisis continues? In an ideal world, shareholders hope that the executive appointed to steward their firm is acting in its best interest and maximizing firm value. Agency theory contends that giving the managers shared ownership of the firm will help to align their interests with those of shareholders. Empirical evidence, however, has supported the managerial power viewpoint. Executives can influence the terms of their compensation by engaging in earnings management and insider trading to maximize their own compensation and personal wealth.

What responsibility do the audit firms have in earnings management that is seemingly taking place on their watch? The role of the audit firm should be to alert investors, employees, suppliers, customers, and the general public to the realities of corporate wrongdoing and weakness. With all the rules and regulations that are in place, what can we truly say about the assurance that the audit is intended to provide (Murtuza, 2003). The demise of Arthur Andersen after the Enron scandal exploded showed that stakeholders had lost faith in the accounting firm and its ability to maintain independence (Cooper & Neu, 2006). Young (2006) argues that true auditor independence is impossible within an environment in which management pays for the audit, hires and fires the auditor, and is the primary contact for auditors. He contends that rather than trying to enact rules to make the auditor more independent, the focus should instead be on the various relationships in which the auditor is engaged and how these relationships may or may not hinder the auditor in serving his intended purpose.

Although measures have been enacted on the part of Congress, the SEC, and the FASB to put an end to the corporate wrong-doings that have wreaked havoc on the financial markets, board of directors must also intensify corporate governance to not only promote compliance by executives but ensure that firm income is fairly distributed. Sikka (2008) discusses how corporate governance mechanisms could help to secure an equitable distribution of income and wealth for workers. Lee, Lev, and Yeo (2008) find that firm performance is positively associated with the dispersion of management compensation. They also document that the positive association between firm performance and pay dispersion is stronger in firms with high agency costs related to managerial discretion. Furthermore, effective corporate governance, especially high board independence, strengthens the positive association between firm performance and pay dispersion. Therefore, the new corporate governance measures not only lead to a more equitable distribution of pay but also to enhanced firm performance.

Executives are consumed by their own firm performance with ever present pressure to meet analyst earnings projections. Shearer (2002) reflects on the accountability of firms to the common good and the role of accounting in that pursuit. Executive compensation should incentivize executives to not only act in the best interest of their firms but also act in accordance with social and environmental objectives. Mahoney and Thorne (2006) examine the association between executive compensation and corporate social responsibility. In their sample, they find significant positive relationships between salary and corporate social responsibility weaknesses, bonus and corporate social responsibility strengths, stock options and corporate social responsibility strengths. Their findings suggest the importance of structuring executive compensation, so that it motivates executives to act for the common good.

Equity compensation in itself is not the answer to provide executives with the incentive to maximize firm value, rather it appears to have often become a means of maximizing their own personal wealth, often to the detriment of the firm that has been entrusted in their care. With the financial world in crisis and the lives of firm shareholders, employees, pensioners, customers, suppliers, and now taxpayers across the country affected, it has never been more crucial for compensation committees to address the inherent problems of executive compensation. Creating an environment in which not only the executives but all stakeholders are considered may help to alleviate some of the ill will that has permeated the market. Executive compensation, while providing the executives with incentives to work for enhanced firm performance, should also incite the executive to act for the common good.

NOTES

1. Statement of Financial Accounting Standard No. 123, "Accounting for Stock Based Compensation," http://www.fasb.org/pdf/fas123.pdf
2. Statement Financial Accounting Standard No. 123, "Share Based Payment," http://www.fasb.org/pdf/fas123r.pdf
3. "Taxes on incentive stock options." Smart Money.com, updated January 9, 2007. http://www.smartmoney.com/tax/capital/index.cfm?story=options_iso
4. "Taxes on nonqualified stock options." Smart Money.com, updated January 9, 2007. http://www.smartmoney.com/tax/capital/index.cfm?story=options_nqso
5. "Insider Trading and Securities Fraud Enforcement Act of 1988," Public Law 100-704, 100th Congress, http://sechistorical.org/collection/papers/1940/1940_SEC_Invst_Advisors_Act/P.pdf
6. "Sarbanes–Oxley Act of 2002," Public Law 107-204, 107th Congress, http://fl1.findlaw.com/news.findlaw.com/hdocs/docs/gwbush/sarbanesoxley072302.pdf

7. AICPA, Summary of Provisions of the SOX of 2002, http://thecaq.aicpa.org/Resources/Sarbanes+Oxley/Summary+of+the+Provisions+of+the+Sarbanes-Oxley+Act+of+2002.htm

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THE GAME OF FRAUDULENT FINANCIAL REPORTING: ACCOUNTING FOR ETHICS

Keith L. Jones

ABSTRACT

Ethics play an important role in society; however, many economics models assume that individual players act "economically" rational and ignore situations where an individual may forgo economic benefit for the public good. This chapter models the strategic interaction between auditors and management and allows for management to choose the economically irrational outcome of behaving ethically even when doing so defies their own financial self-interest. One of the model's assumption is that a certain percentage of managers do not engage in a "strategy" to misreport their financial statements because doing so is "unethical". If recent accounting scandals are indicative of an ethical crisis in this country, this model offers hope because an increase in the percentage of unethical mangers leads to a decrease in fraudulent reporting. The model also illustrates the effects of an increase in the rewards for committing fraud (e.g., greater numbers of stock options, restricted stock, and accounting-based performance incentives) and an increase in the penalty for detected fraud (e.g., stiffer penalties for fraud from Sarbanes–Oxley).

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1. INTRODUCTION

This chapter models the role played by ethics in the strategic interaction between external auditors and management. The model allows for a certain percentage of managers to defy their own financial self-interest in order to behave ethically. The model assumes that some managers will choose the economically irrational position of honest reporting even if the probability of their auditors detecting dishonest reporting is low and personal gain from dishonest reporting is high. The ethical manager's choice is mechanical; he reports true income regardless of the incentives to commit fraud. Only unethical managers employ a strategy.

If recent accounting scandals are indicative of an ethical crisis in this country, this model offers hope for the future in that an increase in the number of unethical managers actually leads to a decline in the number of fraudulent reporters. This outcome is based on the idea that auditors will observe an increase in the probability that reports of high income are the product of fraudulent reporters rather than of actual firm performance. The auditees' best response to the auditors' greater incentive to perform high-effort (fraud detection) audits is to decrease their probability of fraudulently reporting. An ethical crisis leads to the same amount of audit effort experienced before the crisis; however, the probability that individual auditees will fraudulently report decreases. The model also provides the effects of an increase in the rewards for committing fraud (e.g., greater numbers of stock options, restricted stock, and accounting-based performance incentives) and an increase in the penalty for detected fraud (e.g., stiffer penalties for fraud from Sarbanes–Oxley).

This interactive model is important for several reasons. Accounting plays a central role in our society because it helps ''create a particular conception of organizational reality'' (Burchell, Club, Hopwood, Hughes, & Nahapiet, 1980). When management reports its financial statements and an auditor certifies those statements, the public perceives those statements to reflect the current economic state of the company. A difficult but increasingly important task for auditors is to assess the risk of financial statement fraud and to link such assessments to planned audit procedures (AICPA, 1997, 2002). Current policy on audit planning is based on the audit risk model (ARM) (AICPA, 2003); however, the ARM lacks a key component. The ARM decomposes the components of audit risk into inherent risk (IR), control risk (CR), and detection risk (DR).[1] A major criticism of the ARM is the absence of fraud risk (FR), the risk of a material misstatement due to fraud (POB, 2000). A simple probability model like the ARM may not

be appropriate when FR is high. A game-theoretical model may be more suitable.

Several studies have attempted to model the strategic interactions between external auditors and management (Fellingham & Newman, 1985; Newman & Noel, 1989; Bloomfield, 1995). Others have even incorporated FR into their models (Morton, 1993; Shibano, 1990; Matsumura & Tucker, 1992), but this study is one of the first to incorporate the role played by ethics in this strategic game. Prior analytical research assumes that managers will act in their own economic self-interest when advantageous to do so. However, one social scientist has wondered if we should stop asking "Why do people commit white-collar crime?" and start asking "Given the great rewards and low risks of detection, why do so many business people adopt the 'economically irrational' course of obeying the law?" (Braithwaite, 1985).

Incorporating management's ethical attitude is consistent with current fraud theory. There is growing consensus about the three-way classification referred to as the *fraud triangle*, which suggests that fraud results from the interaction of three factors – incentive, opportunity, and attitude (Albrecht, Wernz, & Williams, 1995; Loebbecke, Eining, & Willingham, 1989). Prior studies have failed to incorporate one important component of the fraud triangle, management's ethical attitude, in the strategic game. This study assumes the auditee has the opportunity to commit fraud and incorporates auditee incentive and attitude into the game. The results provide the best-response functions for both auditor and auditee. The functions intersect at the optimal strategies for both players.

Gaining a greater understanding of how participants should react to endogenous and exogenous changes to the audit market should help regulators, auditors, and academics gain a greater understanding of how to regulate the audit market. Auditors have very little incentive to provide low-quality audits because the costs of audit failures to an auditor's reputation and client base can be devastating as illustrated by the plight of Andersen in the wake of high-profile audit failures such as Enron and WorldCom. Thus, auditors, in theory, should self-enforce audit standards as they attempt to protect their reputations. However, it is apparent that individual auditors, such as Andersen, miscalculate the risk that its clients are misreporting income and/or the payouts related to audit failures. The model in this chapter provides insight to help auditors, regulators, and academics to assess risks and payouts more appropriately, which should lead auditors to exert the appropriate amount of audit effort and avoid otherwise preventable audit failures. Regulators may re-allocate resources more appropriately by helping individual audit firms improve their assessments of risk and payouts rather

than expending significant resources enforcing audit standards. Given that auditors cannot test every economic transaction of an audit client, there will always be a risk that the auditor fails to modify an audit report on financial statements that are materially misstated (i.e., audit risk cannot be eliminated). However, a better understanding of how client ethical behavior, audit effort, and exogenous variables (e.g., the state of the economy) affect audit risk should lead to reductions fraudulent reporting.

This chapter is organized as follows. Section 2 provides background into various risk models. Section 3 describes the model. Section 4 provides results. Section 5 concludes the chapter.

2. RISK MODELS

The ARM is often written as a basic probability model, $AR = IR \times CR \times DR$. Given the auditor's assessments of IR and CR, test procedures are selected such that $DR = AR/(IR \times CR)$. One source of task difficulty that auditors encounter is incorporating FR into the ARM. Further complications result from the fact that FR assessments must incorporate many cues with interactive effects on the auditee's propensity to commit fraud (Nieschwietz, Schultz, & Zimbelman, 2000). The fraud triangle explains that fraud is a function of *incentive*, *opportunity*, and *attitude*. *Incentive* represents the perceived benefits of committing fraud such as compensation based on firm performance or stock-based compensation (e.g., restricted stock or stock options). *Opportunity* represents corporate governance failures and control deficiencies that result in management having the ability to fraudulently report. *Attitude* represents the auditee's ethical disposition or the auditee's ability to rationalize unethical behavior. The most difficult cues to observe and assess are those that relate to management's ethical attitude. It is this corner of the fraud triangle that is generally ignored in prior models.

Managers are assumed to be driven by profit maximization, and therefore, all managers would commit fraud given adequate incentive and low probability of detection. Nobody was assumed to do the economically irrational. However, ethics play a role in many economic transactions. Coleman (1987) notes:

> It is clear that the pursuit of economic self-interest must be contained within some normative boundaries – or social and economic chaos would be the ultimate result. The economic rationality necessary to industrialism demands that exchange relationships be based on some set of mutually accepted standards. Without these rules, exchange relationships would be vastly more difficult for all parties involved, and many of the complex economic relationships characteristic of modern society would be virtually impossible to maintain.

The mutually accepted standards are standard norms of ethical behavior. Without a certain degree of trust in other parties, every economic transaction would need some form of audit, credit would be very difficult to obtain, and the cost of doing business would be very difficult to bear. Indeed, Lehman and Okcabol (2005) note, "at some point the effect of individualism and unbridled competition becomes overwhelmingly detrimental, rather than purposeful to the system, jeopardizing its survival. A belief in the system and the ethical nature of its stewardships is critical." Thus, accounting for a certain measure of ethical behavior is vital to any model that assesses economic relationships. This chapter is one of the first to incorporate ethics.

3. MODEL

The game involves the interaction between an auditee who decides whether to overreport income and an auditor who decides whether to conduct a standard audit or a high-effort (fraud detection) audit. The model focuses on overreporting of income rather than underreporting for several reasons. First, while the Securities and Exchange Commission (SEC) does want auditors to crack down on "cookie jar" reserves, the underreporting of income does not pose the same litigation risk to auditors as overreporting. Bonner, Palmrose, and Young (1998) find that SEC Accounting and Enforcement Releases are primarily related to income-increasing activity that violate generally accepted auditing standards (GAAP). Similarly, Palmrose and Scholz (2004) find that restatement announcements are more likely to be downward earnings revisions. Not surprisingly, Kinney and Martin (1994) find that audit adjustments are typically income decreasing even though prior research suggests that management favors income-increasing audit adjustments (e.g., Antle & Nalebuff, 1991; Sanchez, Agoglia, & Hatfield, 2007). Thus, as suggested by Myers, Myers, and Omer (2003), auditors are primarily concerned with clients overreporting income because it poses a greater threat to audit risk, and consequently, litigation risk.

To avoid litigation and reduce audit risk, auditors exert greater audit effort when necessary. In the model, a high-effort audit is more costly because auditors must amend the nature, timing, and extent of their audit procedures to detect intentional misstatements. However, a high-effort audit is more effective at detecting fraudulent reporting. Statement on Audit Standard 99 requires that auditors form a FR assessment for each engagement and modify the nature, timing, and extent of audit procedures to react to elevated levels of FR. A high-effort audit would occur when FR is high and auditors do, in fact, perform a greater extent of audit procedures designed specifically to

detect fraud. Such an audit approach may also include engaging auditors who specialize in fraud detection as well as changing the timing and nature of audit procedures to be less predictable to the client.

The model described here is based on the tax model of Graetz, Reinganum, and Wilde (1986), with changes in the payoff structure to be consistent with an external audit setting (see the Glossary for the model's terms). Each auditee's true income has two levels, $I_0 < I_1$, with a probability distribution that is common knowledge. Similarly, each auditee's reported income has two levels, $R_0 < R_1$. The population of auditees contains two types: a proportion ρ are *strategic auditees* who overreport income given the right incentive and a proportion $1-\rho$ are *ethical auditees* who always report income honestly. The value of ρ is common knowledge. Without conducting a high-effort audit, the auditor cannot distinguish reports from the two auditee types. The ethical auditee's choice is mechanical: report R_1 given that true income is I_1, or report R_0 given that true income is I_0. The strategic auditee's choice is a propensity for misstating income. The propensity for overreporting income is a mixed strategy given that true income is I_0, and a pure strategy (i.e., zero or honest reporting) given that true income is I_1. The auditor's choice is a propensity for conducting a high-effort audit rather than a standard audit. The audit propensity is a mixed strategy given that reported income is R_1, and a pure strategy (i.e., zero or standard audit) given that reported income is R_0.

Table 1 shows the players' payoffs. The payoffs take into account true income, whether the strategic auditee misstates income, and whether the auditor conducts a standard audit or a high-effort audit. If true income is I_1, then the strategic auditee never misstates income. There is no incentive to underreport high true income. For this reason, if reported income is R_0, the auditor never conducts a high-effort audit. The strategic auditee's preference ordering is $X_{100} = X_{101} = X_{010} > X_{000} > X_{011}$. He is indifferent between

Table 1. Player Payoffs.

	Standard Audit	High Audit Effort
True income is I_0		
No misstatement (R_0)	$X_{000}Y_{000}$	n/a
Misstatement (R_1)	$X_{010}Y_{010}$	$X_{011}Y_{011}$
True income is I_1		
No misstatement (R_1)	$X_{100}Y_{100}$	$X_{101}Y_{101}$
Misstatement (R_0)	n/a	n/a

honestly reporting high true income, whether there is a standard or high-effort audit, and overreporting low true income when there is a standard audit. He has a lower payoff for honestly reporting low true income and his lowest payoff occurs when the auditor detects his overreporting low true income. The auditor's preference ordering is $Y_{011} > Y_{100} = Y_{000} > Y_{101} > Y_{010}$. Her highest payoff is for detecting the overreporting of low true income. Assuming honest reporting and a standard audit, she is indifferent between low versus high true income. Her payoff is lower when she conducts a high-effort audit and the strategic auditee has honestly reported high true income, because of the higher audit cost. Her lowest payoff is when she conducts a standard audit and fails to detect the strategic auditee's overreporting of low true income.

To derive optimal strategies, let α denote the strategic auditee's propensity for overreporting income given I_0, and β denote the auditor's propensity to conduct a high-effort audit given R_1. When true income is I_0, the strategic auditee's expected payoff is

$$E(X|I_0) = \alpha[\beta X_{011} + (1-\beta)X_{010}] + (1-\alpha)X_{000} \tag{1}$$

The marginal payoff from misstating income is

$$\frac{\partial E(X|I_0)}{\delta\alpha} = \beta(X_{011} - X_{000}) + (1-\beta)(X_{010} - X_{000}) \tag{2}$$

Let β^* denote the cutoff at which Eq. (2) equals zero:

$$\beta^* = \frac{X_{010} - X_{000}}{X_{010} - X_{011}} \tag{3}$$

In other words, β^* is the ratio of the opportunity cost of being honest when there is a standard audit over the penalty for a detected misstatement.

When reported income is R_1, the auditor is uncertain whether true income is I_0 or I_1, unless she conducts a high-effort audit. Upon observing R_1, the auditor assesses the posterior probability that true income is I_0:

$$P(I_0|R_1) = \frac{P(R_1|I_0)P(I_0)}{P(R_1)} = \frac{\rho\alpha\theta}{\rho\alpha\theta + 1 - \theta} \tag{4}$$

where θ denotes the prior probability that true income is I_0. When reported income is R_1, the auditor's expected payoff is

$$\begin{aligned} E(Y|R_1) = {} & \beta[P(I_0|R_1)Y_{011} + (1 - P(I_0|R_1))Y_{101}] \\ & + (1-\beta)[P(I_0|R_1)Y_{010} + (1 - P(I_0|R_1))Y_{100}] \end{aligned} \tag{5}$$

The marginal payoff from auditing is

$$\frac{\partial E(Y|R_1)}{\delta\beta} = P(I_0|R_1)[Y_{011} - Y_{101} - Y_{010} + Y_{100}] + Y_{101} - Y_{100} \quad \text{(6a)}$$

Let C denote the added cost of conducting a high-effort audit, regardless of whether a misstatement is present. With substitution,

$$\frac{\partial E(Y|R_1)}{\delta\beta} = \left[\frac{\rho\alpha\theta}{\rho\alpha\theta + 1 - \theta}\right](Y_{011} - Y_{010} + C) - C \quad \text{(6b)}$$

Let α^* denote the cutoff at which Eq. (6b) equals zero:

$$\alpha^* = \frac{(1-\theta)C}{\rho\theta(Y_{011} - Y_{010})} \quad \text{(7)}$$

Fig. 1 shows the best-response functions for the strategic auditee and auditor. The functions intersect at the optimal strategies of α^* (Eq. (7)) and β^* (Eq. (3)). When the propensity for misstating is greater than α^* (and $\alpha^* < 1$), the auditor's best response is to conduct a high-effort audit, i.e., $\beta = 1$.[2] When the propensity for misstating is less than α^*, $\beta = 0$. When the audit propensity is less than β^*, the strategic auditee's best response is to misstate income, i.e., $\alpha = 1$. When the audit propensity is greater than β^*, $\alpha = 0$.

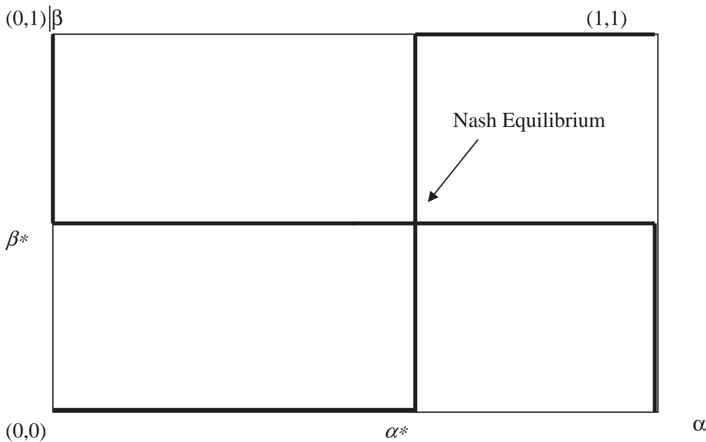

Fig. 1. Best-Response Function for Auditor and Auditee.

4. RESULTS

In the strategic game between auditor and auditee, the decision variables are the probability of fraudulently reporting, α^*, and the probability of performing a high-effort audit, β^*. Two additional variables of interest represent the probability that a random selected auditee will be a fraudulent reporter (denoted by P_F and defined as $P_F = \rho\theta\alpha^*$) and the probability that any given auditee will receive a high-effort audit [denoted by P_A and defined as $P_A = \beta^*(\rho\theta\alpha^* + 1 - \theta)$]. The two variables represent the aggregate probability of fraudulently reporting and the aggregate probability of receiving a high-effort audit, respectively. Table 2 summarizes the results. The results represent the direction taken by each endogenous variable given an increase in each exogenous variable (i.e., percentage of unethical managers, probability of low income, reward for committing undetected fraud, penalty for detected fraud, and the cost of a high-effort audit).

Table 2. Direction of Change.

Endogenous Variable	Exogenous Parameter to be Increased				
	Percentage of unethical managers (ρ)	Probability of low income (θ)	Reward from undetected fraud ($X_{010} - X_{000}$)	Penalty for detected fraud ($X_{010} - X_{011}$)	Cost of high-effort audit (C)
Individual probability of fraudulently reporting (α^*)	–	–	0	0	+
Aggregate probability of fraudulently reporting (P_F)	0	–	0	0	+
Individual probability of high-effort audit (β^*)	0	0	+	–	0
Aggregate probability of high-effort audit (P_A)	0	–	+	–	+

Notes: $\alpha^* = (1-\theta)C/\rho\theta(Y_{011} - Y_{010})$; $P_F = \rho\theta\alpha^*$; $\beta^* = (X_{010} - X_{000})/(X_{010} - X_{011})$; $P_A = \beta^*(\rho\theta\alpha^* + 1 - \theta)$.

Percentage of Unethical Managers

An ethical crisis is often blamed for the increase in fraudulent financial reporting over the past several years. There has been a renewed emphasis on ethics in classrooms of business schools and in the general business community. However, the results show that an increase in the percentage of unethical managers leads to a decrease in the individual probability of fraudulently reporting [i.e., $\alpha^* = (1-\theta)C/\rho\theta(Y_{011} - Y_{010})$, as ρ increases, α^* decreases]. It may be that as business managers' ethics deteriorate, there is a short-term increase in the number of fraudulent reporters. However, the model shows that auditors adjust the rate at which they perform high-effort audits upon the realization that firms that report high income are increasingly more likely to come from fraudulent reporters rather than actual firm performance. The unethical managers notice the additional scrutiny applied by auditors and ultimately the aggregate probability of fraudulently reporting is unaffected [i.e., $P_F = \rho\theta\alpha^*$ and $\alpha^* = (1-\theta) C/\rho\theta(Y_{011} - Y_{010})$, the effect of ρ is offset in the two formulas]. Similarly, both the individual probability of a receiving a high-effort audit and the aggregate probability of receiving a high-effort audit are unaffected by an increase in the percentage of unethical managers.

We may, in fact, be seeing a re-establishing of equilibrium within the real-life auditor/auditee game. It is possible that corporate managers were increasingly operating under the impression that "earnings management" was acceptable part of corporate culture. The fraud triangle explains that ethical attitudes are often shaped by rationalizations. Managers may have been convincing themselves that their duty was to meet analysts' expectations rather than faithfully reporting firm performance. Managers may have perceived that if they did not "manage earnings," then they were suffering a competitive disadvantage and were not performing their fiduciary duty to stockholders, which was, as they saw it, to maintain the highest possible stock price. With the public accounting firms' own recognition of audit failures and the advent of the Sarbanes–Oxley Act and creation of the Public Company Accounting Oversight Board (PCAOB), auditors appear to be adjusting to the increased probability that the reports of high income are, in fact, due to a larger proportion of unethical managers than to actual firm performance. Thus, auditors are increasingly performing high-effort audits, which result in a decrease in the individual probability of fraudulently reporting. Indeed, Lobo and Zhou (2006) find evidence that firms exercise greater levels of conservatism in their financial statement reporting and evidence of less "earnings management"

after the Sarbanes–Oxley Act was implemented. The return to equilibrium leads to a zero net change in the aggregate probability of fraudulently reporting, individual probability of receiving a high-effort audit, and aggregate probability of receiving a high-effort audit.

Probability of Low Income

Similar to the effect of an increase in the percentage of unethical managers, an increase in the probability of low income (or an economic downturn) also corresponds with a reduced individual probability of fraudulently reporting. However, an economic downturn is also coincident with a reduction in the aggregate probability of fraudulently reporting and the aggregate probability of audit and zero change in the individual probability of audit. An economic downturn may coincide with an initial increase in the number of incidences of fraudulent financial reporting as an increasing number of unethical managers must decide whether to fraudulently report high income or accurately report low income. The economic recession brought on by stock market declines in the late 1990s/early 2000s may have caused many managers to fraudulently report rather than miss earnings targets. Jensen (2005) proposes that overvalued equity is often the root cause of fraudulent financial reporting because once a firm's equity becomes overvalued, that firm cannot, except by pure luck, produce the lofty performance required to justify such a high stock price. Therefore, the probability that the overvalued firm will produce a lower than expected income greatly increases, which forces managers to make an ethical decision – to fraudulently report or disappoint the market. Thus, it seems likely that an increase in fraudulent reporting will occur following economic downturns. For example, earnings restatements for publicly traded companies increased dramatically in 1999, 2000, and 2001 following the burst of the tech bubble. The number of earnings restatements by publicly held US corporations averaged approximately 49 per year from 1990 to 1997 (Moriarty & Livingston, 2001). Restatements increased to 91 in 1998, and then climbed to 150 in 1999, 156 in 2000, and to approximately 250 in 2001 (GAO, 2002).

However, as the probability of low income increases, auditors observe a corresponding increase in the likelihood that reports of high income are the result of fraudulent reporting rather than actual firm performance. Thus, auditors recognize a greater need to perform high-effort audits. Managers respond by decreasing their probability of fraudulently reporting [i.e., $\alpha^* = (1-\theta)C/\rho\theta(Y_{011} - Y_{010})$, as θ decreases, so does α^*]. The same is true

for the aggregate probability of fraudulently reporting [i.e., $P_F = \rho\theta\alpha^*$ and $\alpha^* = (1-\theta)C/\rho\theta\ (Y_{011} - Y_{010})$, an increase in θ results in a decrease in P_F]. The decrease in managers' aggregate propensity to commit fraud leads to a decrease in the probability of a high-effort audit [i.e., $P_A = \beta^*(\rho\theta\alpha^* + 1 - \theta)$ and $P_F = \rho\theta\alpha^*$, as P_F decreases, so does P_A]. For example, the advent of the Sarbanes–Oxley Act and the creation of the PCAOB appear to be an attempt to increase audit effort. The PCAOB's second audit standard (AS2) significantly increased the amount of work necessary to perform an audit of public companies. Auditors were required to not only audit the financial statements but also the client's internal controls. However, as audit fees increased dramatically due to increased audit effort, both auditors and managers complained about the high cost of compliance. Indeed, Foster, Ornstein, and Shastri (2007) conclude, "to reduce audit-related costs to some extent, regulators should adopt the proposed revised definitions of a significant deficiency and material weakness, and consider reducing the required frequency of (internal control over financial reporting) audits." The PCAOB has already reacted to these concerns by superseding AS2 with a new standard (AS5) that is designed to be less cumbersome.

Reward for Undetected Fraud

Firms often inadvertently increase the payoff for committing fraud by offering considerable amounts of stock-based compensation (e.g., stock options, restricted stock, and employee stock purchase plans) and performance-based incentives (e.g., accounting-based performance bonuses). As these incentives increase, unethical managers face an ever-greater temptation to misreport, which may lead to an increase in fraudulent reporting. However, an increase in the reward for undetected fraud $(X_{010} - X_{000})$ will have no effect on the individual probability of fraudulently reporting, α^*, and the aggregate probability of fraudulently reporting, P_F. At equilibrium, auditors also observe managers' increasing incentive to misreport and managers observe that auditors have a greater incentive to perform high-effort audits. There is no increase in the individual probability to fraudulently report or the aggregate probability of fraudulently reporting [i.e., $\alpha^* = (1-\theta)C/\rho\theta\ \ (Y_{011} - Y_{010})$ and $P_F = \rho\theta\alpha^*$ are unaffected by $(X_{010} - X_{000})$]. Although, there is an increase in both the individual probability and the aggregate probability of a high-effort audit [i.e., $\beta^* = (X_{010} - X_{000})/(X_{010} - X_{011})$ and $P_A = \beta^*\ \ (\rho\theta\alpha^* + 1 - \theta)$, as $(X_{010} -$

X_{000}) increases, so does β^* and P_A]. Indeed Erickson, Hanlon, and Maydew (2006) note that "it is well documented that the use of stock options as a form of executive compensation rose dramatically during the 1990s, as did other forms of pay-for-performance plans such as grants of restricted stock and bonus plans tied to performance (Murphy, 1999)." As noted above, the boom in stock-based compensations corresponds with an increase in earnings restatements during the late 1990s and early 2000s. Johnson, Ryan, and Tian (2005) find a positive relation between fraudulent reporting and incentives from unrestricted stock holdings by executives. The authors do not find a relation between fraud and stock options or restricted stock. Erickson et al. (2006) did not find consistent evidence that executive equity incentives are associated with fraud over the sample period 1996–2003. Increased equity- and incentive-based compensation may have contributed to the overvaluation of the stock market during the late 1990s and the subsequent earnings restatements; however, the increased compensation does not appear to be directly associated with increased fraudulent reporting over a sustained period.

Penalty for Detected Fraud

The Sarbanes–Oxley Act greatly increased the penalties for fraudulently reporting and several former corporate officers convicted of fraudulently reporting are receiving stiffer prison sentences (e.g., Bernie Ebbers, former CEO of WorldCom, has been sentenced to 25 years in prison). What effect will increasing the penalty for detected fraud ($X_{010}-X_{011}$) have on the probability of fraudulently reporting and probability that auditors perform high-effort audits?

It is possible that these stiffer penalties will result in fewer frauds as managers re-evaluate whether to commit fraud given the new payoff function. However, the model indicates that the individual and aggregate probability of fraudulently reporting will remain unchanged [i.e., $\alpha^* = (1-\theta)C/\rho\theta(Y_{011}-Y_{010})$ and $P_F = \rho\theta\alpha^*$ are unaffected by ($X_{010}-X_{011}$)]. This result occurs because management recognizes that auditors also assess managers' decreased incentives to commit fraud and decrease the individual and aggregate probability of a high-effort audit, which is what equilibrium dictates will happen [i.e., $\beta^* = (X_{010}-X_{000})/(X_{010}-X_{011})$ and $P_A = \beta^*(\rho\theta\alpha^* + 1-\theta)$, as ($X_{010}-X_{011}$) increases, β^* and P_A decrease]. Thus, the increased penalty to getting caught is offset by the reduced level of auditing and management continues to commit fraud at the same rate.

Cost of a High-Effort Audit

An increase in the cost of performing a high-effort audit, C, has the effect of increasing the individual and aggregate probability of fraudulently reporting and the aggregate probability of a high-effort audit. However, the individual probability of a high-effort audit remains unchanged. The individual probability of fraudulently reporting occurs because managers realize that the cost of a high-effort audit changes the cut-off point at which a high-effort makes sense for an auditor, and managers adjust their probability of fraudulently reporting accordingly as evidenced by an increase in both the individual and aggregate probability of fraudulently reporting [i.e., $\alpha^* = (1 - \theta)C/\rho\theta(Y_{011} - Y_{010})$ and $P_F = \rho\theta\alpha^*$, an increase in C leads to an increase in α^* and P_F]. This increase in the probability of fraudulently reporting results in an increase in the aggregate probability of an audit [i.e., $P_A = \beta^*(\rho\theta\alpha^* + 1 - \theta)$; an increase in α^* leads to an increase in P_A]. However, the individual probability of an audit remains unchanged [i.e., $\beta^* = (X_{010} - X_{000})/(X_{010} - X_{011})$, β^* is unaffected by C].

Auditor's Perception of Rate of Fraudulent Reporting

Auditors could perceive that fraudulent financial reporting declines because they perceive that the probability of unethical managers declines or their clients are in the midst of an economic upswing that leads to reports of high income coming from actual performance rather than fraudulent reporting. If auditors perceive correctly, then the model explains either case. If an individual auditor incorrectly perceives that there is a decrease in ethical managers, then the auditor may do less audit work in the short-run before it becomes apparent to him (possibly due to audit failures or market observation) that there has not been a decrease in the probability of fraudulent reporting. Assuming that market equilibrium equates to reality (vs. incorrect perception), then the individual auditor will return to market equilibrium. If an individual auditor incorrectly perceives that his clients are in the midst of an economic uptick, then he may do less audit work given that the reports of high income do not raise perceived FR due to their consistency with the auditor's expectations. However, it will again become apparent to the auditor (due to either audit failures or market observation) that there has not been a decrease in the probability of fraudulent reporting and the auditor will again return to market equilibrium.

Extension of the Model

The model presented in this chapter makes several simplifying assumptions. First, it assumes there are only two levels of audit – low versus high effort. Second, it assumes that there are only two types of income – accurately versus fraudulently reported. Third, it assumes that there only two types of manager – ethical versus unethical. In reality, the amount of audit work varies, there are several degrees of "earnings management," and managers vary in ethical attitude. It is more likely that many managers would commit fraud given appropriate incentive/pressure to do so; however, the appropriate amount of incentive/pressure would vary across managers. Allowing for a larger scale other than 0/1 for any or all of these variables would be a valuable addition to the model.

Interactive effects among the variables presented in the model may also exist. For example, the reward for committing fraud may not be independent of ethical attitude; that is, a linear relationship between the two variables may not exist. It may be that as the reward from undetected fraud increases, the likelihood that a manager will commit fraud increases at an increasing (or perhaps decreasing) rate. Assessing and accounting for interactive effects within the model would also be a valuable addition. The model does, however, provide a valuable first step in understanding and incorporating ethical behavior into the strategic game between auditors and management.

5. CONCLUSION

This article introduces the role of ethics in the strategic interaction between external auditors and management. Previous studies have ignored the economically irrational choice of behaving ethically. Certainly, many managers will not choose to commit fraud for ethical reasons even when given great economic incentives to do so. Current fraud theory, the *fraud triangle*, suggests that fraud is a function of incentive, opportunity, and attitude. However, prior literature that has modeled the strategic interaction between auditor and auditee has largely ignored the role of the auditee's ethical attitude. Current standards on audit planning are based on the ARM, which suggests that audit risk is a function of IR, CR, and DR; however, the ARM ignores FR – the risk of a material misstatement due to fraud. A strategic game setting is a more appropriate setting for modeling

the interaction between auditor and auditee when FR is a distinct possibility.

An ethical crisis has been blamed for the recent increase in fraudulent financial reporting. However, the results show an increase in the percentage of managers who are willing to behave unethically will lead to a decrease in the individual probability that an unethical manager will fraudulently report earnings. The reason is that managers realize auditors observe an increase in the percentage of managers willing to commit fraud. Therefore, unethical managers' best response to auditors' increased incentive to perform high-effort audits is to reduce the probability that any individual manager will misreport. The probability of receiving a high-effort audit remains unchanged. Therefore, if we are in the middle of an economic crisis in this country, then the surge we see in fraudulent financial reporting should decrease as the audit market re-establishes equilibrium.

Similarly, an increase in the probability of low income brought on by an economic downturn, such as the one we experienced in the late 1990s, leads to a lower probability of fraudulently reporting. Short-run increases in fraudulent financial reporting such as the ones we have seen would not be unexpected; however, the new equilibrium will result in a lower likelihood of fraudulently reporting in the long run.

We have also seen recently an increase in the rewards for committing fraud. An increasing reliance on stock-based compensation (e.g., stock options, restricted stock, and ESPP's) and performance-based incentives has the undesired effect of increasing the incentive for managers to commit fraud. However, the model shows that any short-time increases in fraudulent reporting will eventually lead to a long-term increase in the probability of a high-effort audit. Ultimately, the probability of fraudulently reporting will be unaffected. Increasing the penalty for detected fraud will have the opposite effect. Managers will have less of an incentive to commit fraud; thus, auditors will ultimately reduce the probability of a high-effort audit and the probability of fraudulently reporting will be unchanged. The Sarbanes–Oxley Act greatly increased the penalties for fraudulently reporting and several former corporate officers convicted of fraudulently reporting are receiving stiffer prison sentences; however, the long-tem effects of these fraud deterrents will actually lead to less auditing instead of reducing the probability of fraudulently reporting.

From a practical standpoint, it would be easy to conclude that if consequence of an increase in unethical behavior is a return to the same level of fraudulent reporting, then the model adds little value for auditors, regulators, and academics. However, this finding has several practical

implications. First, it suggests that an entire government agency devoted to ensuring audit standards are followed may not be the best use of regulatory resources. Auditors have the strongest motive to provide high-effort audits to detect fraud because the auditors only have their reputation to sell. Consider another case of government regulation – the regulation of pollution. The government has a need to regulate pollution because the manufacturer does not bear the environmental cost of the pollution but reaps the profits from selling products. However, fraud is not a byproduct of performing an audit. When an auditor fails to detect fraud, it directly affects the auditor's reputation and ability to sell future audit services. Thus, establishing an agency to enforce standards that auditors have financial incentive to follow may not be the best use of public resources. It is important to consider every player's long-run incentives before reacting in a knee-jerk fashion to short-term payoffs.

Second, it is important to point out that the model reflects the interaction of the audit market. Each individual auditor may not accurately assess the probabilities and payouts for each outcome, which would lead to unexpected results for the audit firm. Certainly, Andersen did not intend to lose its reputation and client base as a result of several high-profile audit failures. Andersen must have either underestimated the probability of its clients misreporting or underestimated the costs of failed audits. But, it is clear that Andersen did not exert sufficient audit effort, which suggests the firm did not appropriately assess risk. Thus, the model can provide a method by which individual auditors can more accurately evaluate risk, exert the appropriate amount of effort, and avoid otherwise preventable audit failures.

Third, the fact that individual auditors, such as Andersen, do miscalculate risk suggests that regulators should be more concerned that auditors gain a greater understanding of the risks and payouts associated with auditing publicly traded companies rather than trying to enforce quality controls. Auditors have little incentive to perform multiple low-quality audits because the cost of multiple audit failures is extremely high. Thus, auditors have very little incentive to give clean audit opinions to clients whose financial statements are materially misstated, which means regulators have little need to allocate tremendous resources towards enforcing audit standards. However, regulators do have a strong incentive to ensure that audit markets stay competitive or the model's fundamentals come into question. The loss of audit firms who repeatedly fail to exert appropriate audit effort could be devastating to a market with so few competitors (i.e., the Big 4 international accounting firms). Regulators have every incentive to verify

that auditors accurately assess risk to maintain a competitive balance in the audit market. This model can help in that process. Regulators may more appropriately allocate resources towards ensuring that management of audit firms have a realistic system to evaluate risk and payouts. In fact, it may be useful for regulators to provide global assessments of risk and payouts for the audit market and compare those assessments to individual auditors' assessments. As long as audit firms appropriately assess risk and payouts and avoid Andersen's fate, the model suggests that the auditors would self-enforce audit standards. Fraud would not be eliminated entirely because auditors do not and cannot audit every transaction entered into by its clients (Bayou & Reinstein, 2001). Auditors inevitably need to test on a sample basis. Thus, sampling risk (and therefore audit risk) cannot be reduced to zero. However, audit failures that result from incorrect assessments of FR (and by extension an inappropriate amount of audit effort) can, in theory, be eliminated.

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GLOSSARY

ρ: Proportion of strategic auditees.
$1-\rho$: Proportion of ethical auditees.
C: Auditor's added cost for high-effort audit versus standard audit.
I_0, I_1: Two levels of true income.
θ: Prior probability that true income is I_0.
R_0, R_1: Two levels of reported income.
X: Strategic auditee's payoffs.
Y: Auditor's payoffs.
α: Strategic auditee's propensity to over-report income when true income is I_0.
β: Auditor's propensity to conduct a high-effort audit when reported income is R_1.

NOTES

1. Inherent risk (IR) is the initial risk that an account balance or class of transactions could contain a material misstatement, barring any controls to prevent or detect and correct the misstatement. Control risk (CR) is the risk that the client's internal control system will fail to prevent or detect a misstatement, if one were to occur. Detection risk (DR) is the risk that audit procedures will fail to detect a misstatement.
2. When the right side of Eq. (7) is greater than one, it never pays to conduct a high-effort audit.

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STAKEHOLDERS' PERCEPTIONS ON THE ACCOUNTABILITY OF MALAYSIAN LOCAL AUTHORITIES

Stuart Tooley, Jill Hooks and Norida Basnan

ABSTRACT

Purpose – *This chapter aims to identify stakeholder perceptions on the service performance accountability of Malaysian local authorities.*

Design/methodology/approach – *A questionnaire survey provides the primary source of information, and both descriptive and analytical methods are employed to support the analysis of the empirical findings.*

Findings – *The chapter shows that despite a strong interest amongst stakeholders for greater accountability of Malaysian local authorities, a standard definition and scope of accountability has not emerged. However, the findings do indicate a new bond of accountability emerging between local authorities and its broader public than previously existed.*

Research limitations – *The findings and discussion are limited to the propositions put forward in the questionnaire. Alternative research methods would complement the findings.*

Originality/value – *The findings contribute to our understanding of accountability as interpreted by key stakeholders of local authorities located within the context of a developing country. This could potentially*

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assist Malaysian public sector administrators whereby, and arguably, enhancing the public accountability of local authorities may contribute to an improvement in the performance management of Malaysian local authorities.

1. INTRODUCTION

Internationally, the public sector has been subjected to criticism for, amongst other perceived ailments, inefficiency, poor performance and ineffective accountability. In response, governments of both developed and developing countries have, since the early 1980s, sought to address such deficiencies through administrative reform and reorganisation. Although aspects of the reform agenda have varied amongst individual countries, it is widely acknowledged that the broad thrust of the public management reforms is framed within what is referred to as the new public management (NPM) (e.g. Guthrie, Olson, & Humphrey, 1999; Lapsley, 1999). Although several doctrines underpin the NPM (see Hood, 1991, 1995), of particular relevance to this chapter is the call for improved public accountability of governments (Broadbent & Guthrie, 1992; Mulgan & Uhr, 2000) and for public sector managers to be held accountable for both their managerial performance and financial management of entrusted resources (Parker & Guthrie, 1993; Hood, 1995). Improving the accountability of the public sector, it is argued, will encourage a more efficient and effective public administration.

In common with other Southeast Asian countries, the Malaysian public sector has undergone NPM-type transformation with the aim of inducing a more efficient, energised and market-driven administration (Cheung & Scott, 2003; Siddique, 2006; Swee & Kesavapany, 2006). Notably, in recent times, there has been increased public interest in the performance of Malaysian local authorities in the delivery of public services. This has brought about change in the relationship between the Malaysian public and local authorities from one of passive service recipient and/or fund provider (i.e. tax/ratepayer) to active demands for local authorities to have greater transparency and improved accountability for performance (*Berita Harian*, 2005; *The Sun*, 2005; *The Star*, 2005). It has been reported that state governments are also expressing dissatisfaction with local authority performance but, perhaps, for different reasons than those advanced by other stakeholders. As 'creations' of state governments and with direct statutory answerability to their respective state government [Sections 9 and 53 of

Malaysian Local Government Act (1976) (Act 171)], there is a political concern that the lines of responsibility for the activities and achievements of local authorities may become blurred and inefficiencies and poor performance may come to reflect poorly on the state government and affect its political popularity (*The Sun*, 2006; *New Straits Times*, 2003).

Although the conceptual importance of accountability and 'being held accountable for results' are recognised as key elements of the NPM, it is generally recognised that accountability is a complex concept and a standardised meaning remains elusive (Bovens, Hart, Curtin, & Steeg, 2005; Budding, 2004; Goddard, 2005; Mulgan, 2000: Mulgan & Uhr, 2000). Sinclair (1995, p. 221) argues that accountability is a nebulous concept lacking a clear definition, dependent on the 'ideologies, motifs and language' of the time and with 'discipline-specific meanings' and, therefore, 'the more definitive we attempt to render the concept, the more murky it becomes'. Therefore, there is an opportunity for developing further understanding about the way in which accountability is defined and applied within specific contexts. This chapter seeks to further explore the concept of accountability, within the context of one sector of the Malaysian public sector (i.e. local authority), from a stakeholder's perspective. Three core issues underpin the study: whether a Malaysian local authority should be accountable for its performance and if so, why; key stakeholders' understanding of the scope of accountability; and to whom a local authority should be accountable?

The remainder of the chapter is structured as follows. Section 2 sets out the theoretical framework that underpins this study. Section 3 outlines the administrative and accountability structures that currently exist within the Malaysian local authority sector. Section 4 outlines the research method used to gather the empirical data, and section 5 reports the findings. The findings are analysed and discussed in section 6, and the chapter concludes with the customary summary, limitations of the study and a suggestion for further research.

2. THEORETICAL FRAMEWORK

In its broadest sense, accountability simply refers to the giving and demanding of reasons for conduct in which people are required to explain and take responsibility for their actions (Roberts & Scapens, 1985; Day & Klein, 1987; Romzek & Dubrick, 1998; Pollitt, 2003; Bovens, 2005). In a more specific sense, accountability has been variously defined as implying a literal accounting/reporting function or an explanation or justification of

actions taken (Patton, 1992). It is generally recognised that accountability involves two core components – a call to account and a giving of the account (Gray & Jenkins, 1993; Goddard, 2005). These components complement each other and demonstrate the capacity to perform actions in a responsible manner and to transparently communicate to stakeholders what has been done (Farneti & Bestebreur, 2004). Accountability is also seen to encompass the right of the accountee to pass judgement and, if warranted, impose formal or informal sanctions (Mulgan, 2000; Keohane, 2002; Bovens, 2005).

The institutionalised practice of accountability is underpinned by two taxonomical issues which, in turn, may give rise to multiple accountabilities: the accountability relationship and the scope of accountability. At its core, accountability is about a relationship; a relationship between the accountor and the accountee. The accountor and accountee can be either an individual or an agency, or in the case of an accountee can also be a virtual collective such as the 'general public'. The relationship between who has the obligation to account and who has the legitimacy to hold to account has been described by Gray and Jenkins (1993) as one of stewardship where the accountor accepts resources and responsibilities entrusted by an accountee, and in return is obliged to present and answer to an account as to the execution of the stewardship. Such an obligation can be formal or informal and underpinned by a legal or moral/ethical responsibility.

Relational classifications of accountability have focused on who the accountee is and are commonly defined in the context of public accountability, political accountability, legal accountability, administrative accountability and professional accountability (see e.g. Sinclair, 1995; Behn, 2001; Pollitt, 2003). Other classifications are promoted on the basis of who the accountee is holding to account and include corporate accountability, hierarchical accountability, professional accountability, collective accountability and individual accountability (e.g. Bovens, 1989; Romzek, 2000; Romzek & Johnston, 2005). Although presented as discrete and distinguishable forms of accountability relationships, accountees typically operate in a dynamic accountability environment with a myriad of accountability relationships and where each relationship imposes competing demands as to the form of the account.

Underpinning each accountability relationship is an established order or custom which governs behaviour. Gray and Jenkins (1993, p. 55) refer to this as 'codes of accountability' defined as 'a system of signals, meanings and customs which binds the principal and steward in the establishment, execution and adjudication of their relationship'. Although they may be distinguished and characterised in a number of ways, it is the manner in

which codes of accountability embody different, but not necessarily competing, rationalities that is significant. The term 'rationalities' refers to the interpretative frames that define each accountor's scope of accountability and the methods by which this will be realised. That is, different accountees may have different expectations, based on different norms, of accountee's performance and conduct and therefore may require different data sets upon which to pass different judgements (Bovens, 2005). Various concepts of the scope of accountability have been stated often based on five rationalities identified by Diesing (1962): legal, economic, technical, social and political. Legal rationality sets out the fundamental rules that are used by societies in promoting order, assigning responsibility, regulating difference and containing conflict. Economic rationality specifies the economic calculus by which alternative ends and/or means are compared and is clearly related to technical rationality that outlines the expert/knowledge-based criteria by which means are selected in relation to ends. Social rationality sets out conditions which have to be met if social integration is to be maintained and, in turn, is related to political rationality that stipulates the pragmatic requirements for sustaining the integration of decision-making structures and processes (Degeling, Anderson, & Guthrie, 1996).

Although some codes of accountability may appear to draw on or promote one of the five rationalities above another, in practice they comprise combinations and in doing so produce their own definitions of the scope of accountability, the objectives and conduct of its execution and the terms in which the account is presented and adjudicated. From a combination of the rationalities identified by Diesing (1962), Gray and Jenkins (1993) propose three codes of accountability: financial, professional and managerial accountability. Combining legal and economic rationalities, the financial code embodies rules of authorisation and appropriation; and emphasises the accountability of the accountor for probity, the adequacy of internal controls and for economy and efficiency. The professional code draws on the social rationalities that are embodied in the norms and conventions associated with a profession and its relationship with its clients, and combines this with what is perceived as desirable in terms of regularity (legal rationality) and effectiveness (technical rationality). Thus, professional codes emphasise accountability for the appropriateness of a service, its accessibility and for matters such as quality, equity and client power. The managerial code brings together aspects of legal, economic and technical rationalities. However, in contrast to the financial code of accountability, it emphasises the accountor's accountability for organisational integration, for regularity and consistency in service provision and for economy and

efficiency. The allocation of responsibility for actions, decisions and costs is an inherent feature of this code. Similar classifications have been developed by other researchers (e.g. Sinclair, 1995; Romzek, 2000; Brinkerhoff, 2001; Romzek & Johnston, 2005; Bovens, 2005) and inform our understanding of how the scope of accountability can be framed.

Within a public sector setting, the role and importance of accountability is emphasised by Smith (1971, p. 26) who argued that 'in the broadest sense, accountability is the central objective of democratic government: how can control be exercised over those to whom power is delegated?'' Internationally, public sector administration was traditionally characterised as an activity concerned with administering the legislated functions of government organisations, and where key individuals had responsibility for ensuring that the regulations and procedures were adhered to and budget expenditure limits not transgressed (Parker & Guthrie, 1993). The traditional administration model embodied a hierarchical approach to authority-based administration, which was underpinned by the formal model of bureaucratic structure and processes originally laid down by Max Weber (Hughes, 1992). Arguably, and in this context, the form of accountability was in the nature of a financial code (Gray & Jenkins, 1993).

In contrast, the philosophical leaning of the NPM approach to the management of the public sector emphasises greater managerial responsibility and a concern for performance. It was widely recognised that giving managers adequate and genuine independence of action was vital to effective performance (Smith, 1971). The reorientation of the way in which the public sector has come to be managed has expanded the scope of accountability beyond a monitoring process that was largely concerned with fiduciary responsibility, stewardship and probity, to one of a monitoring process concerned with financial outcomes and the achievement of results – performance accountability (Parker & Guthrie, 1993; Parker & Gould, 1999). This is the essence of Gray and Jenkins' (1993) managerial code of accountability.

Significantly, the accountability relationship has extended from the traditional institutional arrangement, which concentrated on the responsibility of ministers to parliament and public servants to their immediate superior (Parker, 1980), to include a broader group of stakeholders (Boyne, Williams, Law, & Walker, 2002; Parker & Guthrie, 1993) with different values and interests (Mulgan, 2004) and 'calls for openly declared facts and open debate of them by laymen and their elected representatives … grounded in a widely held feeling that tax-paying citizens have rights as well as duties' (Normanton, 1971, p. 312). Within this broader setting,

accountability provides a kind of harmony between power and responsibility whereby an open and accountable public administration:

> Obliges politicians, officials and managements to engage openly in dialogue which calls into question what they are doing, and sometimes the assumptions upon which that activity is founded ... . This is not merely a matter of exposure to criticism; administration may indeed be good and merit no criticism, but it should also be publicly seen to be good. (Normanton, 1971, p. 320)

Arguably, such accountability draws on aspects of all five rationalities – legal, economic, technical, social and political – and in this context a code of public accountability is seem to exist (Sinclair, 1995). Public accountability refers to a public entitlement to be informed about the performance and condition of the entity under the accountor's responsibility, and as such requires 'the reporting of comprehensive information about the condition, performance, activities and progress to all those with social, economic and political interests' (Coy & Dixon, 2004, p. 81). Within this realm of public accountability, the accountability relationships of public sector institutions are seen to be multidirectional which Bovens (2005) refers to as vertical, horizontal and diagonal accountability.

Commonly associated with the Westminster system of government, vertical (or hierarchical) accountability has been the dominant form of public sector accountability and is underpinned by a series of principal–agent relationships whereby the public sector institution is organisationally accountable to a political superior in accordance with an established 'chain of command' culminating in ministerial responsibility to Parliament. Diagonal accountability relationships are seen to exist between the accountor institution and, predominately, agents of Parliament and/or government (e.g. auditors and ombudsmen). These agents are established or engaged by Parliament and/or government to monitor, control and report on the conduct of accountor institutions and as such are regarded as 'auxiliary forms of accountability that were instituted to help the political principals' (Bovens, 2005, p. 196). Such agents may not have formal powers of holding accountors to account but act as intermediaries in the accountability process. Horizontal accountability involves public sector institutions in a more diversified set of informal accountability relationships where the accountee does not have formalised power to enforce compliance.

At the core of an accountability relationship, whether the relationship be vertical, diagonal or horizontal, is the ability of the accountee to assess and improve the quality of performance and to have the power to evaluate and hold to account the person who gives the account (Stewart, 1984). In this

regard, Stewart (1984) distinguishes between two forms of accountability relationship, the 'bond of accountability' and the 'link of accountability', and argues that the 'bond of accountability' recognises the responsibility one party has to another, whereas the 'link of accountability' only recognises a mutual expectation of responsiveness (Ryan, Dunstan, & Brown, 2001). It is the bond of accountability, demonstrating at a minimum the capacity for power, which underpins the 'true' essence of accountability. Although not of the same order as a bond of accountability, a link of accountability has an important role to play in supporting accountability and can, in itself, induce change and improvement. As argued by Jones (1977, p. 5), and within a public sector context:

> Connections of control and responsibility are different from linkages of responsiveness; officials and civil servants, ministers and MPs may be responsive to a variety of forces in society – trade unions, employees, consumers, pressure groups of various kinds, but they are not responsible to them. A prudent concern for the views of such groups, arising out of an appreciation of their political influence, leads those holding responsible positions in government to pay them attention. But this relationship does not involve responsibility. Responsibility certainly entails responsiveness, but responsiveness does not entail responsibility.

The recognition of these rationalities and that codes of accountability differ in what they bring within the gaze of accountability, provides a framework for examining stakeholder views on the accountability of Malaysian local authorities. The framework directs attention to the need to consider the scope of accountability, the various actors in the accountability process and the relationship between them. The nature of the relationship between the accountor and accountee can be expected to affect the information demanded or given and, therefore, accountability for different things may lead to preferences for different types of information processed in the account (Patton, 1992). Accountability objectives imply that local authorities should be accountable to those with whom there is either a link or a bond of accountability. Their role imposes responsibilities in respect of the resources under their control creating a bond of accountability with certain stakeholders. In addition, there is a need to respond to the information requirements of other stakeholders who lack the ability to hold them directly to account.

Degeling et al. (1996) suggest that what should be brought into focus by an accountability system is determined by what functionally is required for establishing and maintaining different types of accountability relationships. This chapter uses the framework of accountability as a platform to explore

internal and external stakeholders' understanding of their relationship with Malaysian local authorities.

3. ADMINISTRATIVE AND ACCOUNTABILITY STRUCTURES WITHIN THE MALAYSIAN LOCAL AUTHORITY SECTOR

Malaysia is a federation of 13 states and 3 federal territories. As a former British colony, the federal parliament has been modelled on the British Westminster system and consists of the King (*Yang Di Pertuan Agung*), the Lower House or House of Representatives (*Dewan Rakyat*) and the Upper House or Senate (*Dewan Negara*). Members of the Lower House are elected, whereas members of the Upper House are appointed. Under the terms of the Federal Constitution, executive power is vested in the hands of the King; however, in all practicality day-to-day government is exercised by a Cabinet of Ministers led by the Prime Minister. The Cabinet is collectively responsible to parliament.

At the state level, each state has a 'unicameral legislature' (UNESCAP, 1999) – the State Legislative Assembly (*Dewan Undangan Negeri*), with the state ruler (Sultan) or governor (for states where there is no hereditary ruler) as the supreme head (EIU, 2006). The members of the State Legislative Assembly are elected representatives. The State Executive Committee, chaired by the chief minister, exercises the day-to-day affairs of state government and is collectively responsible to the State Legislative Assembly. The administrative machinery of state government consists of state departments, statutory bodies, public corporations and local authorities (city halls and municipal and district councils).

The constitutional division of legislative power between federal and state governments is set out in the Ninth Schedule of the Federal Constitution and summarised in Table 1. Of particular relevance to this study, the constitution stipulates that local authorities fall under the exclusive jurisdiction of state governments.

By the early 1970s, there were a large number of local authorities (418) in Malaysia, many of which were relatively small, nonautonomous and nonviable (UNESCAP, 1999). The enactment of the Local Government Act 1976 (widely known in Malaysia as Act 171) culminated in the reform and restructuring of the administration of local authorities with a notable outcome of consolidating local authorities into three main categories

Table 1. Division of Power between Federal and State Governments.

Federal Responsibilities	State Responsibilities	Shared Responsibilities
External affairs	Muslim religious law	Social welfare
Defense and security	Land ownership and use	Public health
Trade, commerce and industry	Agriculture and forestry	Town and country planning
Shipping, communication and transport, water supply, rivers and canals	State works and water supply (when not federalised)	Drainage and irrigation
Finance and taxation	Loans for state development and public debt	Rehabilitation of mining land and soil erosion
Education and health	Malay reservation and custom	National parks and wildlife
Labour and social security	Local authorities[a]	
Public works and utilities		

Source: Phang (2008, p. 2).

[a]Although the term 'local government' is used in the Federal Constitution, the terms 'local government' and 'local authority' are often used interchangeably in Malaysia. Othman (2001) suggests that the term 'local government' is no longer appropriate, instead the term 'local authority' is seen to be more suitable given the fact that local authorities are similar to the state government departments.

according to population and annual revenue – city council/city hall, municipal council and district council.[1] Currently, there are 145 local authorities in Malaysia comprising 12 city councils/city halls, 37 municipal councils and 96 district councils.

Local authorities operate as semi-autonomous entities within the state government framework and perform two key roles – the provision of basic services and the regulation of land use and business activity (Abdullah, 2006). Basic services include mandatory responsibility for waste collection, provision of street lighting, public health-related activities, public amenities (e.g. veterinary services and transport), maintenance of recreational parks and the provision of social services (e.g. child care centres). Additional roles such as facilitating business activities and industrial development are at the discretion of the local authority (UNESCAP, 1999). The adoption of an NPM philosophy within the broader Malaysian public sector has seen local authorities contract out service delivery to private sector entities (e.g. solid waste disposal and sewerage services) (Singaravello, Md. Sidin, Sambasivan, & Mohd Noor, 2006).

Local authorities are the dominant state government administrative machinery and, although early forms of local authorities tended to be modelled on British institutions (Norris, 1980), local authorities have evolved into 'a system having its own identity, characteristics and laws that

reflect socio-economic and political environment of the country' (UNESCAP, 1999, p. 8). Nevertheless, local authorities are expected to operate on the principle of *ultra-vires*, that is, they can only undertake activities as specified in statute and in accordance with by-laws.

The governance structure of local authorities consists of a mayor (president) and a council. Prior to 1965, the mayor and members of council were elected by local residents. However, as a result of internal administrative and political problems such as unequal ethnic balance in urban areas (Singaravello, Md. Sidin, Sambasivan, & Mohd Noor, 2006) and confrontation with Indonesia over the newly formed Malaysian federation (UNESCAP, 1999), the electoral system for local authorities was replaced by a 'bureaucratic dominant type of local government' (Cheema & Hussein, 1978, p. 580). Under the resulting nominative representation system, the State Government appoints both mayor (president) and members of council (Phang, 2008).

As shown in Fig. 1, the state government exercises its control over local authorities through the State Committee for Local Government. The powers of the state government include approval of local authorities' budgets, appointment and removal of mayor and/or members of council,

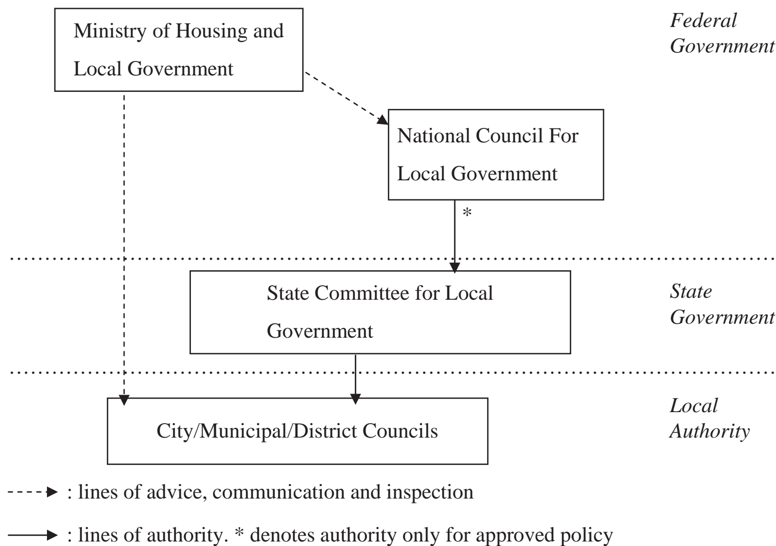

Fig. 1. The Relationship between Local Authorities and the Federal and State Governments. *Source:* Cheema and Hussein (1978, p. 584) and Othman (2001, p. 175).

power to withhold confirmation of by-laws and the imposition of rates (Cheema & Hussein, 1978).

Dealings between the local authority and federal government are handled by the federal Ministry of Housing and Local Government. The ministry provides advice to local authorities in matters especially related to legal and major policy issues (Article 5A, Federal Constitution). The Federal Constitution (Article 95A) provides for the National Council for Local Government to act as a forum for federal, state and local authorities to co-ordinate policies and laws relating to local authority administration. Although the National Council is a conduit for the transfer of federal funds to local authorities, neither it nor other federal agencies have influence over the financial affairs of the local authority (Faruqi, 2001).

Sources of income and finance for all local authorities (as classified by the Ministry of Housing and Local Government) include assessment of taxes and rates, licences and permits, rentals, grants from federal and state governments, car parking charges, planning fees, fines, interest and loans (Singaravello & Subramaniam, 2006). Assessment taxes and rates are the predominant source of income and make up approximately 60% of total income for city and municipal councils with grants from federal and state governments averaging approximately 15% of total income (Phang & Subramaniam, 2006; Setapa & Yee, 2003). Notably, district councils received approximately 29% of their income in the form of assessment taxes, and grants amount to approximately 53% of income (Singaravello & Subramaniam, 2006). Local authorities are able to apply to federal government and financial institutions for loans; however, approval must first be obtained from the state government.

The accountability structure between local authorities and state government is both direct and formal. The Local Government Act 1976 (Section 9) empowers the state government to issue directions of a general nature to a local authority, through the mayor (president), on the policies to be followed in the exercise of powers conferred and the duties imposed under the Local Government Act 1976, and other specific tasks and responsibilities as mandated by the state government. The state government provides grants to local authorities and authorises the imposition of assessment taxes and rates and other charges to be collected by local authorities. Bound by directives issued by state government and entrusted with resources transferred and/or authorised by state government the formal accountability is complete with the requirement for local authorities to furnish to state government a statement of account in regard to their properties and activities (Faruqi, 2001).

Although there is little opportunity for the public (both as tax/ratepayer and consumer) to hold key office holders to account by way of, for example, direct sanctions (e.g. via election), there are a number of provisions that allow the public to gain access to information regarding the performance of local authorities and to provide feedback. For example, section 23 of Act 171 requires that meetings of local authorities be open to the public and representatives of local media, section 27 of the act provides for the minutes of the proceedings of the local authority to be available for inspection by any tax/ratepayer and section 60(4) of Act 171 requires that audited financial accounts be published in the government gazette. In addition, section 142 of Act 171 provides that 'citizens who are dissatisfied with the authorities' performance have a right to make objections in writing and are allowed an opportunity of being heard at the consequent enquiry'. There are a number of avenues currently available to the public to submit their objections. They can make a direct submission to the local authority concerned, to the Public Complaint Bureau of the Prime Minister's Department or they can make public objections/complaints via the media. The Bureau may then review the case and if necessary bring its findings to the attention of the relevant state government to take further action. Within this regime, the broader public has no opportunity to hold local authorities to account; rather, any sanctions are imposed through a higher authority such as the state government.

Within an administrative background incorporating defined accountability structures and reporting lines for local authorities, we seek to understand stakeholders' views of accountability relationships and scope.

4. METHOD

Relevant data were obtained by means of an anonymous questionnaire survey designed to gather insights into three core questions that underpin the study: (1) should a local authority be accountable for its performance and if so, why; (2) what do key stakeholders understand by the term 'accountability' and (3) who is a local authority accountable to? The questions required respondents to either tick or circle an appropriate prompt that summarised the respondent's views and/or provide a short statement.

A total of 1,738 questionnaires were distributed to a broad range of internal and external stakeholders (Hyndman & Anderson, 1995). For the purposes of the current study, internal stakeholders include local authority councillors, management and employees (Lapsley, 1992; Boyne et al., 2002),

and external stakeholders include members of the public, representatives of state governments and creditors of local authorities (Rutherford, 1992, 2000; Stecollini, 2004). For public stakeholders, the questionnaires were personally distributed to people who lived or worked in the locality of each local authority and showed interest[2] and willingness to participate in the survey. Participants were randomly selected from customers at the local authorities' counters, people who resided within the locality of the local authority concerned (identified with the assistance of the community leaders), people who used facilities provided by the local authorities (such as public libraries, bus/taxi stations and recreation centres) and people who were renting premises owned by the authorities (i.e. owners of businesses run in the shops/stalls provided by the authorities).

The director or officer of the Community Affairs or Public Relations Department for 38 local authorities assumed the self-appointed role of 'gatekeeper' and, as such, was tasked with responsibility for the distribution of the questionnaire to councillors, management, employees and creditors, collection of questionnaires and issuing of follow-up reminder notices. On the advice of each director/officer, 20–40 questionnaires were provided for distribution with mutual agreement that the distribution should include representation from each group of potential respondents. Questionnaires were directly sent to the accountants of eight state governments to whom the local authorities report.

A total of 722 questionnaires were returned; however, the analysis is based on 666 responses that were considered to be sufficiently complete (see Table 2). This constitutes an overall response rate of 38%[3] and is considered acceptable for this type of instrument.[4]

5. FINDINGS

5.1. Accountability of Local Authorities for Performance

All respondents thought that a local authority should be accountable for its performance; however, when asked to provide a reason for local authorities to be held accountable, a variety of reasons were forthcoming. As summarised in Table 3, each respondent's reason has been coded into 11 themes, which, in turn, have been categorised into general classifications[5] reflecting an underlying concern of accountability. The most common reason (28% of all respondents) for such accountability is a perceived need for local authorities to demonstrate how they have spent the funds provided

Table 2. Response Summary.

	Number of Questionnaires Distributed	Number of Useable Responses	Response Rate (%)
Internal stakeholders			
Councillors	229	13	5.7
Management	286	92	32.2
Employees	490	144	29.4
Total internal	1005	249	24.7
External stakeholders			
Public	620	399	64.4
State Government	8	6	75
Creditors	105	12	11.4
Total external	733	417	56.8
TOTAL	1738	666	38.3

by taxpayer and ratepayers. All stakeholder groups held similar views of the responsibility of local authorities for taxpayer and ratepayer monies.

Accountability, as a means of improving the public image of local authorities (16%), is the second most subscribed view closely followed by the view that accountability leads to an improvement in managerial performance (15%). However, when the respondents are divided into their respective external/internal constituencies, a difference in viewpoint emerges. Sixteen per cent of external stakeholders are of the view that accountability provides a means of improving public image. A further 15% are of the view that holding local authorities accountable may ultimately raise the level of customer satisfaction and increase customer confidence and trust (12%). Arguably, the two views are linked. If customers are seen to be satisfied with the quality and quantity of local authority services, then the wider public is equally supportive of the local authority and its endeavours. Interestingly, accountability as a means of increasing customer satisfaction, confidence and trust is not as strongly identified by internal stakeholders. For internal stakeholders, 17% of respondents subscribed to the view that accountability leads to an improvement in managerial performance, whereas a further 14% suggest that accountability is a means of improving the public image of local authorities. It could be argued that these two views are also linked whereby, for example, if local authorities are seen to go about their business in a managerially responsible manner, then the wider public will remain supportive. The least commonly held view across all respondents

Table 3. Reasons for Local Authorities to be held Accountable.

	Stakeholders[a]					
	External		Internal		All	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Customer						
Raise level of customer satisfaction	63	15	20	8	83	12
To increase customer confidence and trust	51	12	16	6	67	10
To ensure quality services are provided	33	8	24	10	57	9
To improve the quality of services provided	7	2	3	1	10	2
Tax/ratepayer						
Responsibility for tax/ratepayer monies	112	27	75	30	187	28
Public						
To improve public image and support	70	16	34	14	104	16
To demonstrate public benefit	7	2	9	3	16	2
Organisational						
To improve managerial performance	57	14	41	17	98	15
To improve financial control	2	0	20	8	22	3
Government						
In return for delegated powers/responsibilities	3	1	2	1	5	1
Obligation as a government agency	0	0	2	1	2	0
No reason stated	12	3	3	1	15	2
TOTAL	417	100	249	100	666	100

[a]The response rate for two groups of stakeholders (refer Table 2) is low; therefore we have not reported the results by stakeholder type, but have instead grouped them as external and internal stakeholders. We have included an analysis by stakeholder type in Appendices A–D. For Table 3, refer to Appendix A.

and stakeholder groups is that the accountability of a local authority is warranted on the basis of its statutory relationship to its governing body (state government).

5.2. Scope of Accountability

Respondents were asked to identify from a list, the phrase or phrases that explained their understanding of accountability:

(a) Accountable for expenditure made in accordance with rules and regulations;
(b) Accountable for the use of financial resources;
(c) Accountable for the provision of efficient and effective services;
(d) Accountable for the management of entrusted public monies and organisational accomplishments.

These phrases are based on Kearns (1996), Munro (1996), and Mulgan (2000) who support the view that accountability is not only concerned with reporting on one's actions and activities, but also extends to being responsive to the expectations of an array of individuals and institutions. Although presented in a discrete format each phrase is intended to represent a difference in the scope of accountability with an implicit hierarchy between the phrases. Although we are unable to determine if respondents recognised an implicit hierarchy, the opportunity for respondents to select multiple phrases does provide us with some insights. Table 4 summarises the respondent's identification of phrases that canvassed the scope of accountability.

A small minority of respondents (5%) suggests that the scope of accountability should be limited to issues of probity and legality [phrase (a) – rules and regulations] which emphasises the compliance reporting of fiduciary accountability (Kluvers, 2003). Phrase (b) indicates a concern for compliance and process (Stewart, 1984) with an emphasis on 'input controls, control of expenditure in terms of appropriations and ensuring the money was spent without fraud' (Broadbent & Guthrie, 1992). Seventeen per cent of the total survey respondents consider that to be held accountable only requires the rendering of an account of the use of financial resources. Notably, a greater proportion of external stakeholders (23%) subscribed to this view compared to internal stakeholders (7%) suggesting that for a majority of internal stakeholders accountability is more than just compliance with rules and regulations and reporting on the use of financial resources; accountability is of a higher order. Both phrases (a) and (b) reflect

Table 4. Patterns on the Scope of Accountability.

	Stakeholders[a]					
	External		Internal		All	
	Frequency	Percentage ($n = 384$)	Frequency	Percentage ($n = 227$)	Frequency	Percentage ($n = 611$)[b]
Indicated (a) only	15	4	15	6	30	5
Indicated (b) only	72	19	13	6	85	14
Indicated (c) only	49	13	36	16	85	14
Indicated (d) only	13	3	0	0	13	2
TOTAL	149	39	64	28	213	35
Indicated (a) only	15	4	15	6	30	5
Indicated (a) and (b), or (b); but not (c) or (d)	88	23	15	7	103	17
Indicated (a) and/or (b) and (c), or (c); but not (d)	98	25	64	28	162	26
Indicated (a) and/or (b) and/or (c), and (d), or (d)	183	48	133	59	316	52
TOTAL	384	100	227	100	611	100

[a]Appendix B provides an analysis by stakeholder type.
[b]Although 666 returned questionnaires were considered 'usable' (refer Table 2), 55 of these respondents did not indicate a response for this particular question.

the traditional notion of accountability. However, this traditional view is no longer sufficient in an era of NPM and therefore accountability should also represent 'the efficient use of resources and the effectiveness of policy decisions' (Kluvers, 2003, p. 58) – programme and performance accountability (Stewart, 1984). At this level, the scope of accountability extends beyond the economic. A majority of respondents indicated that the scope of accountability should extend beyond the financial code of accountability and encompass elements promoted by the NPM. Twenty-six per cent of respondents indicated a concern for the performance of the organisation in the efficient and effective delivery of outputs and, importantly, a further 52% identified an expectation that the scope of accountability should encapsulate a broader concern over organisational performance and the use of entrusted funds. More internal stakeholders (59%) compared to external stakeholders (48%) suggested that local authorities should be held accountable for all aspects of their business. Arguably this indicates a greater awareness by internal stakeholders of contemporary expectations in the role and management of local authorities.

5.3. Accountability Relationship

Respondents were asked to consider the accountability relationships of Malaysian local authorities. As can be seen from Table 5, an overwhelming majority of respondents identified 'rendering an account to all stakeholders' and only 8% identified 'rendering an account to the higher authority only'. This finding, which is consistent among all stakeholder groups, indicates a broad view of the directional nature of the accountability relationship between local authorities and stakeholders. A more detailed analysis is given in Table 6 which summarises the responses of respondents to the list of possible accountability relationships. Respondents were able to identify more than one accountability relationship.

As shown in Table 6, over 90% of the external respondents agreed that a local authority should be accountable for its performance to the public whether the public be considered as a source of funds (tax/ratepayers) or as recipient/consumer of local authority provided services. Although internal respondents most frequently identified an accountability relationship between local authorities and the public (approximately 80% of internal respondents), the identification of this relationship was not as strong as for external respondents. Nevertheless, this overall finding is consistent with the reasons cited as to why a local authority should be accountable and which predominately centred on customer, tax/ratepayer and public (refer Table 3).

Table 5. Direction of Accountability.

	Stakeholders[a]					
	External		Internal		All	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Rendering an account to the higher authority only	33	10	7	5	40	8
Rendering an account to all stakeholders	304	90	137	95	441	92
TOTAL	337	100	144	100	481[b]	100

[a]An analysis by stakeholder type is provided in Appendix C.

[b]One hundred and eighty-five respondents provided no response to either of these two statements.

Table 6. Accountability Relationship.

	Stakeholders[a]					
	External		Internal		All	
	Frequency	Percentage ($n = 417$)	Frequency	Percentage ($n = 249$)	Frequency	Percentage ($n = 666$)
Public as tax payers	386	93	205	82	591	89
Public as service consumers	381	91	196	79	577	87
State government	287	69	183	73	470	71
Federal government	202	48	151	61	353	53
Councillors	119	29	118	47	237	36
Employees	112	27	120	48	232	35
Creditors (suppliers/ lenders)	43	10	87	35	130	20
Auditors	37	9	74	30	111	17

[a]An analysis by stakeholder type is provided in Appendix D.

A majority of respondents (71%) are of the opinion that state government, and to a lesser extent the federal government (53%), are also important parties that a local authority should be accountable to. It is notable that although external and internal stakeholders held similar strong views on an accountability relationship between a local authority and state government, the external stakeholders are less certain about an accountability relationship with the federal government (less than 50% of external respondents). Although the recognition of a strong line of accountability between local authorities and state government is consistent with the traditional hierarchical relationship between state governments and local authority,[6] as observed from Table 3, this is the least cited reason for the accountability of local authorities.

Respondents also identify other accountability relationships whereby, and arising in the context of the NPM, 'accountability to whom' has been widened to include accountability to a broader group of stakeholders with different values and interest (Parker & Guthrie, 1993; Mulgan, 2004).

6. ANALYSIS OF FINDINGS AND DISCUSSION

Essentially accountability is about an obligation in that the person or organisation entrusted with responsibility (the accountor) is obliged to

explain and justify their conduct to the person or organisation who assigned the responsibility (the accountee). Accountability implies that the accountee has the right to ask for explanations. Such rights are the essence of accountability (Brinkerhoff, 2001). We find that the Malaysian stakeholders of local authorities consider that accountability involves rendering an account to all stakeholders in respect of managerial accountability, financial accountability and economic efficiency and effectiveness. Thus, our study identifies most strongly with the relational classification of public accountability and codes of financial and managerial accountability. The prominence of the public in the array of accountability relationships and their increasing calls for local authorities to be called to account, has been observed internationally. For example, Abdul Khalid (2006, p. 301) observes that the Malaysian public 'are more aware of their rights' and as such are demanding greater accountability for performance from local authorities.

The broad picture emerging from all respondents is an accountability concern for the local authority use of taxpayer and ratepayer monies. For external stakeholders, subsequent reasons for local authority accountability are predominately concerned with the delivery of customer services, whereas for internal stakeholders, other reasons for local authorities to be held accountable focus on organisational performance. For the majority of respondents, the call-to-account is no longer underpinned by past tendencies of a bureaucratic, hierarchical approach to public administration and accountability. Instead, and while the concern for financial accountability remains high (i.e. responsibility for tax/ratepayer monies and financial control), stakeholders identify a strong motivation for the accountability of local authorities on the basis of a relationship between the local authorities and their customers/public. The individual reasons for this motivation reflect general areas of commonality with aspects of the NPM as encapsulated by the managerial code of accountability, and extended by a public accountability whereby the accountability of local authorities is seen to promote greater organisational focus on the achievement of output/outcome-related goals (Kluvers, 2003).

It is observed from Table 6, that the identified accountability relationships consist of a range of relationships that Stewart (1984) would classify as being in the form of either a 'bond of accountability' or a 'link of accountability'. The proposed bonds and links of local authority accountabilities are depicted in Fig. 2.

Extending Stewart's (1984) accountability framework to Malaysian local authorities (and drawing on Ryan, Dunstan, & Brown, 2002), we tentatively suggest that a bond of accountability exists between the local authority,

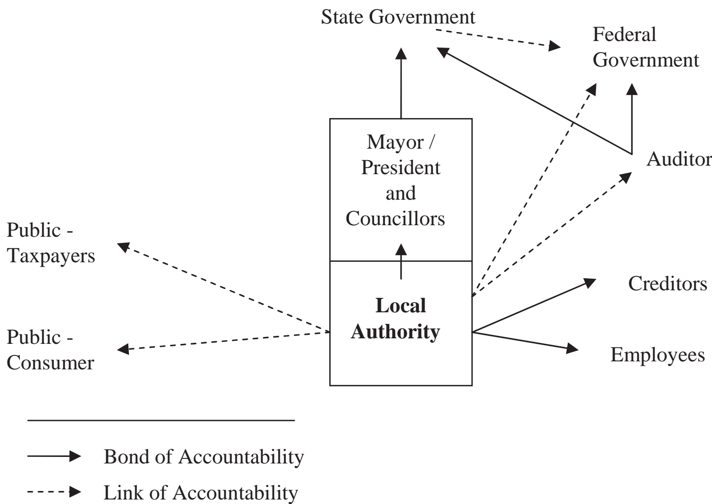

Fig. 2. Bonds and Links of Accountabilities.

comprising the president/mayor and councillors and the state government. Such office holders are nominated[7] by the state government and arguably are therefore directly accountable to the state government. As provided in the Malaysian Local Government Act (1976) (Act 171 – section 9), the state government has direct control over the affairs of local authorities. In this context, accountability becomes part of the vertical (or hierarchical) power relationship between the state government and appointed office holder.

We also suggest a bond of accountability may exist between the local authorities and creditors; specifically when evidenced by a contractual agreement that sets out the responsibility of one party to another in respect of resources supplied/consumed. Similarly, and in accordance with the doctrines of the NPM, contracts relating to conditions of employment create responsibilities and expectations for both employer and employee which, in our view, would also give rise to a bond of accountability.

Respondents identified an accountability relationship between a local authority and its auditor. Although an auditor does not have power of sanctions over the conduct of the audited, arguably this identified relationship may reflect a respondent view of the 'responsiveness' of local authorities to any concerns raised by the auditor. If so, then tentatively a

link of diagonal accountability may be seen to exist recognising the intermediary role that the auditor plays between the local authority and federal and state government.

We suggest that in the absence of the capacity for power, the accountability relationship between local authority and the broader public is therefore only in the form of a link of accountability, which recognises an informal 'recognition of responsiveness' by local authorities (Stewart, 1984, p. 25). However, as indicated in Table 3, respondents to the questionnaire clearly indicate that they perceive that local authorities should be held accountable because the local authority has a responsibility to provide services which are funded by tax/ratepayers and a responsibility to provide information on how that money has been spent. It is evident that although vertical accountability underpins the formalised accountability system, there is a strong undercurrent for greater institutionalised practices of openness between a local authority and its citizenship. Therefore, the relationship with tax/ratepayers, although something less than a bond of accountability, is somewhat more than a link because of its connection to responsibility requirements.

7. CONCLUSION

Our findings support the notion that accountability is an elusive concept and difficult to define. Nevertheless, we are able to conclude that stakeholders of Malaysian local authorities hold firm views of accountability relationships and scope. Thus, we provide some insights that may assist in developing understanding of accountability defeating the notion that accountability '… reside[s] in a "bottomless swamp" where the more definitive we attempt to render the concept, the more murky it becomes' (Sinclair, 1995, p. 221). However, there is diversity in respect of 'for what' and 'to whom' accountability should be rendered. It is apparent that the need to give an account and the emphasis that has been placed on performance by the notion of NPM is recognised by the stakeholders. This shows that the performance of local authorities is of increased interest, significance and value to the stakeholders and implies that Malaysian local authorities need to reflect a results-oriented environment in order to meet their stakeholders' expectations. Overall accountability was recognised as an essential component of power (defined, implied and delegated) and a responsibility imposed by the local authorities' ability to collect and use public money.

We suggest that a more formal accountability relationship between local authority and tax/ratepayers and the public as a whole is needed. Besides maintaining the statutory provision currently available to preserve public rights to information from local authorities, other measures need to be adopted for a more formal accountability relationship. An accountability relationship occurs because the authorities accept the transfer of a large portion of financial resources in terms of assessment taxes and rates from the public (Laughlin, 1990). Therefore, the local authorities are obliged to present an account of, and to answer for their performance to the tax/ratepayers, regardless of whether there are bonds or links of accountability (Gray & Jenkins, 1993).

To date accountability relationships have been limited to those between the authority and state government. Although a number of statutory requirements/authorities are supportive of the public rights to information in relation to Malaysian local authorities, we suggest that the research results indicate that a more formal accountability relationship is desired. Respondents' comments on the accountability of local authorities indicate a lack of confidence and respect in those organisations and more formal lines of accountability would enhance their credibility and arguably, contribute to an improvement in the performance management of the Malaysian public sector. Thus, and in respect of NPM, local authorities would account for economy, efficiency, appropriateness and accessibility of service provision and adequacy of internal controls. Then administration would be '... publicly seen to be good' (Normanton, 1971, p. 320).

8. LIMITATIONS AND FURTHER RESEARCH

The major limitation of this study is that the scope of the research is limited and convenience sampling is used, thus limiting the generalisability of the results. The findings and discussion are limited to the propositions put forward in the questionnaire and such a survey instrument provides limited opportunity to solicit further meanings to participant's responses. The self-selection of individuals (i.e. members of the public who showed interest and willingness to participate) and the role of the director or officer of the Community Affairs or Public Relations Department in distributing questionnaires to other stakeholder groups may represent a biased portion of the wider stakeholder population; at least we cannot claim that they are representative. However, given that this study is exploratory in nature, the

use of self-selection and interested respondents is considered to be appropriate. Furthermore, several researchers (e.g. Jones, Scott, Kimbro, & Ingram, 1985; Daniels & Daniels, 1991) have included interested parties as their study respondents and our study followed this practice. The reported research is also subject to response rate bias. Although the overall response rate and the response rate for each of the two major classifications (internal stakeholders and external stakeholders) are acceptable for this type of instrument (e.g. Smith, 2003), we acknowledge the variability of subclassification response rates and exercise caution in the interpretation of results of analysis at this lower level of classification.

Although beyond the scope of the study reported in this chapter, future research could map out the scope of information considered relevant for accountability purposes by stakeholders of Malaysian local authorities. In this regard, more direct engagement with identifiable stakeholder groupings is desirable and will go some way to address some of the limitations identified in the preceding text.

NOTES

1. To be categorised as a city council/hall, the population should be more than 500,000 with annual income in excess of MYR 100 million. For the municipal council, the population should be more than 150,000 and annual income of more than MYR 20. For smaller authorities (district councils), the population is less than 150,000 with annual income less than MYR 20 million (as per approval in the meeting of the National Council for Local Government on 3rd June, 2008. www.kpkt.gov.my. Retrieved on 09.10.08).
2. Studies that include only interested subjects in their work include Jones et al. (1985), Daniels and Daniels (1991), and Dixon et al. (1994).
3. We provide further comment on the response rate and other issues of potential bias at the end of the paper.
4. Response rates of less than 25% are common in accounting research (Smith, 2003).
5. It is acknowledged that some caution needs to be taken when interpreting these general classifications given the subjective opinions of the researchers in the classification process.
6. The Malaysian Federal Constitution stipulates that local authorities are subject to the jurisdiction of their respective state government and, therefore, the state government has direct control over local authorities.
7. Malaysia has a nominative representation system that operates at the local authority level. That is, the mayor/president and council members are not elected officials but are appointed by the respective State Governments.

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APPENDIX A. REASONS FOR LOCAL AUTHORITIES TO BE HELD ACCOUNTABLE

Focus	External			Internal		
	Public ($n = 399$)	Creditors ($n = 12$)	State government ($n = 8$)	Councillors ($n = 13$)	Management ($n = 92$)	Employees ($n = 144$)
Customer						
• Raise level of customer satisfaction	16	8	0	8	8	8
• To increase customer confidence and trust	13	8	0	0	6	7
• To ensure quality services are provided	8	0	17	8	11	9
• To improve the quality of services provided	2	0	0	8	1	1
Total	39	16	17	24	26	25
Tax/ratepayer						
• Responsibility for tax/ratepayer monies	26	25	67	38	29	30
Public						
• To improve public image and support	17	8	0	15	18	10
• To demonstrate public benefit	1	17	0	0	5	3
Total	18	25	0	15	23	13

Organisational						
• To improve managerial performance	13	33	17	8	12	20
• To improve financial control	0	0	0	0	7	10
Total	13	33	17	8	19	30
Government						
• In return for delegated powers/ responsibilities	1	0	0	8	0	1
• Obligation as a government agency	0	0	0	8	1	0
Total	1	0	0	16	1	1
No reason stated	3	0	0	0	1	1
TOTAL (%)	100	99[a]	101[a]	101[a]	99[a]	100[a]

[a]Rounding error.

APPENDIX B. PATTERNS ON THE SCOPE OF ACCOUNTABILITY

	External			Internal		
	Public ($n = 366$)	Creditors ($n = 12$)	State government ($n = 6$)	Councillors ($n = 10$)	Management ($n = 86$)	Employees ($n = 131$)
Indicated (a) only	4	0	0	0	8	6
Indicated (b) only	19	8	0	0	7	5
Indicated (c) only	13	0	0	30	9	19
Indicated (d) only	4	0	0	0	0	0
TOTAL (%)	40	8	0	30	24	30
Indicated (a) only	4	0	0	0	8	6
Indicated (a) and (b), or (b); but not (c) or (d)	24	8	0	0	8	6
Indicated (a) and/or (b) and (c), or (c); but not (d)	27	0	0	40	24	30
Indicated (a) and/or (b) and/or (c), and (d), or (d)	45	92	100	60	40	58
TOTAL (%)	100	100	100	100	100	100

APPENDIX C. DIRECTION OF ACCOUNTABILITY

	External			Internal		
	Public ($n = 323$)	Creditors ($n = 8$)	State government ($n = 6$)	Councillors ($n = 11$)	Management ($n = 51$)	Employees ($n = 82$)
Rendering an account to the higher authority only	10	0	17	9	6	4
Rendering an account to all stakeholders	90	100	83	91	94	96
TOTAL (%)	100	100	100	100	100	100

APPENDIX D. ACCOUNTABILITY RELATIONSHIP

	External			Internal		
	Public ($n = 399$)	Creditors ($n = 12$)	State government ($n = 6$)	Councillors ($n = 13$)	Management ($n = 92$)	Employees ($n = 144$)
Public as tax payers	98	58	100	92	79	83
Public as service consumers	92	58	83	85	73	82
State government	68	92	100	92	75	71
Federal government	48	58	83	77	67	55
Councillors	28	17	83	54	47	47
Employees	26	25	67	46	48	49
Creditors (suppliers/lenders)	10	8	67	54	30	36
Auditors	8	8	83	31	30	29

AN EXPERIMENTAL INVESTIGATION OF THE INTENTIONS TO ACCRUE AND DISCLOSE ENVIRONMENTAL LIABILITIES

Stephanie M. Weidman, Anthony P. Curatola and Frank Linnehan

ABSTRACT

There is ample evidence that many firms do not fully disclose environmental liabilities. Since it is likely that full disclosure of these liabilities may lead to greater accountability by a firm, it is important to identify factors related to the treatment and disclosure of these specific liabilities. This study reports on factors found to be related to the intentions of 263 financial executives to accrue and disclose environmental liabilities based on scenarios developed for this research. Using the Theory of Planned Behavior, we find that intentions to accrue and disclose environmental liabilities are positively related to an executive's attitudes, subjective norms, perceived behavioral control, and sense of obligation. We also provide evidence that the magnitude of the environmental and financial consequences has a positive, significant relation to these

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intentions and find that financial executives from privately held companies are less likely to accrue and disclose environmental liabilities than those from companies that are publicly traded. These findings suggest that encouraging positive attitudes toward environmental accruals and disclosures, enhancing the behavioral control of financial executives over the accrual decision, and heightening their moral obligation to disclosure these liabilities may lead to better accounting treatment and transparency of environmental matters.

INTRODUCTION

It has been argued by critical and social accounting theorists that accounting helps to shape social reality (Lehman, 1995; Wright, 1994; Gray, 1992; Arrington & Puxty, 1991). Accounting is not an objective conveyance of numbers and facts; it is aligned with interests (Arrington & Puxty, 1991; Tinker, Merino, & Neimark, 1982). By making firms' environmental actions and associated costs more visible to those outside the firm, accounting can be a mechanism for improving the environmental responsibility of companies. Accounting disclosures make organizational boundaries more transparent, allowing society to hold firms accountable for their environmental actions.

Gray (1992) speaks of the role of the accounting function as a means of fostering *accountability* and *transparency*. Gray defines accountability as the duty to supply information to which others have a right. This right to receive information and duty to account derives not only from law and quasi-law, but also from the barometers of public opinion, which can be viewed as society's expressions of the implicit social contract between itself and organizations (Gray, 1992).

In applying the concept of accountability to companies' environmental activities, it implies that those having the power to affect natural resources have an obligation to provide an account of their actions to society. Society's expectations regarding the natural environment have been institutionalized through a number of activities, including the passage of numerous laws and regulations regarding pollution control, the formation of environmental pressure groups, the passing of 'sunshine laws', and the promulgation of accounting standards pertaining to environmental liabilities in the United States and elsewhere.

The present study is motivated by the desire to see firms more fully disclose their environmental liabilities in hopes that improved accountability

may lead to improved performance in the area of environmental management. Studies have provided evidence that many firms do not fully disclose environmental liabilities (Daley & Schuler, 1999; Freedman & Stagliano, 1998, Mitchell, 1997; Gray, Owen, & Adams, 1996; Tilt, 1994; United Nations, 1994). Disclosure practice with respect to these liabilities remains diverse, resulting in financial statements that may not be comparable among firms that face similar environmental risks (Freedman & Stagliano, 1998; Mitchell, 1997; SEC, 1993). Further reinforcing the difficulty in determining the meaning of disclosures, Hughes, Anderson, and Golden (2001) found that disclosures alone were not sufficient to accurately classify firms by their actual environmental performance. Factors such as the social impact of environmental concerns, the significance of environmental clean-up costs and the potential effect full disclosure may have on a firm's stakeholders are reasons why it is important to increase the overall level and quality of disclosure of firms' environmental liabilities.

The flexibility allowed by accounting standards for environmental liability recognition and disclosure contributes to the diverse accounting practice in this area. In issuing Statement Number 143, *Accounting for Asset Retirement Obligations* (FAS 143), the Financial Accounting Standards Board (FASB) acknowledged that the "diverse accounting practices that have developed for obligations associated with the retirement of tangible long-lived assets make it difficult to compare the financial positions and results of operations of companies that have similar obligations but account for them differently" (FASB, 2001, p. 2). FAS 143, along with FASB Interpretation No. 47 (FIN 47), attempt to provide more stringent guidance for the recognition and disclosure of contingent liabilities that impair asset values, many of which arise due to environmental damage (FASB, 2005). Additionally, a July 2004 report by the Government Accountability Office recommends that the SEC improve its tracking and transparency of environmental disclosure information (U.S. GAO, 2004). Within the framework of accounting guidance and regulatory oversight, management must exercise judgment in estimating the costs and probabilities associated with environmental liabilities, and determine the accrual and disclosure of those liabilities.

The present study extends prior research in this area by exploring situational, personal, and issue-specific factors that may be related to these accrual and disclosure decisions. A survey of 263 financial executives is conducted to gain an understanding of their intentions to accrue and disclose environmental liabilities based on scenarios developed for this research. Using the theory of planned behavior (Ajzen, 1991), the study explores the

relation of these intentions to the participants' attitudes, perceived social norms, sense of control over and moral obligation about these decisions. The study also explores the relation between the intentions to accrue and disclose environmental liabilities with their magnitude and financial consequences.

The remaining sections of this chapter are organized as follows: the second section discusses prior literature, the theoretical background of the research, and the development of hypotheses; next the research method, data collection, and variable measurement are discussed; the following section presents the results; and the final section is a summary of the study's conclusions and a discussion of their implications.

BACKGROUND AND HYPOTHESES DEVELOPMENT

Review of Relevant Literature

Previous research in the field of corporate social reporting (CSR), of which environmental reporting is a component, has attempted to examine the frequency of such reporting and identify some variables that may be associated with it.

Numerous studies have demonstrated a significant positive relation between firm size and corporate social reporting (e.g., Tagesson, Blank, Broberg, & Collin, 2009; Reverte, 2009; Stanny & Ely, 2008; Hossain & Reaz, 2007; Ho & Taylor, 2007; Adams, Hill, & Roberts, 1998; Hackston & Milne, 1996; Cowen, Ferreri, & Parker, 1987; Trotman & Bradley, 1981). Recent studies have tested determinants of CSR using companies listed on specific national exchanges, and some have incorporated CSR published via web-based reports (Tagesson et al., 2009; Holder-Webb, Cohen, Nath, & Wood, 2009; Branco & Rodrigues, 2008). The importance of firm size as a determinant of CSR may be based on legitimacy theory, which asserts that companies with high visibility (usually large firms) may engage in CSR to legitimize their activities in the eyes of society and their important stakeholder groups.

Industry classification has been identified as another factor that may affect CSR practices. Industry effects are found in a number of studies (Holder-Webb et al., 2009; Tagesson et al., 2009; Ho & Taylor, 2007; Adams et al., 1998; Cowen et al., 1987), and companies in environmentally sensitive industries have been shown to engage in higher levels of CSR (Reverte, 2009; Hackston & Milne, 1996; Roberts, 1992).

The relation between CSR and other outcomes has been the focus of other lines of research. Early studies that have explored the link between CSR and financial performance reported a weak, yet positive relation between social responsibility and performance (Mangos & Lewis, 1995). Recent studies, however, offer conflicting results, some finding support for a positive relation (Tagesson et al., 2009; Roberts, 1992), some negative (Ho & Taylor, 2007), and others finding no support for a significant relation (Reverte, 2009; Cowen et al., 1987). Vafeas and Nikolaou (2001) examine the relation between financial performance and corporate environmental performance, based on Council for Economic Priorities (CEPs) classification. They conclude that firms with a poor environmental CEP rating perform worse than firms with good or mixed CEP ratings based on accounting and market measures of performance.

Adams (2002) suggests a helpful framework for categorizing factors thought to influence social disclosures, and she describes the following categories:

(a) corporate characteristics – such as those discussed earlier, including company size, industry classification, and profitability;
(b) general contextual factors – such as country of origin, social and political context, economic context, cultural context, and time period of reporting;
(c) internal contextual factors – such as the reporting processes within companies and the views and attitudes of individuals involved in the reporting processes.

Adams finds that there are significant internal contextual variables that are likely to impact on the extent, quality, quantity, and completeness of CSR, including the attitudes of interviewees.

Within the CSR literature there are a number of studies that seek to identify the factors that specifically influence firms' environmental disclosures. Such studies provide evidence that environmental liability disclosure is positively correlated with regulatory pressure (Freedman & Stagliano, 1998; Stanny, 1998; Barth, McNichols, & Wilson, 1997; Mitchell, 1997), frequency of access to capital markets (Barth et al., 1997), the number of times a firm is named as a potentially responsible party (Barth et al., 1997; Mitchell, 1997), environmental liability size (Barth et al., 1997; Mitchell, 1997), and firm size (Mitchell, 1997). Environmental liability disclosure is negatively correlated with proxies for managements' allocation uncertainty, and proxies for firms' litigation and negotiation concerns (Barth et al., 1997). Some of these factors

are company characteristics and some are general contextual factors. None are measures of internal contextual factors.

Although other studies have examined CSR as a behavioral outcome at the level of the firm, the present study directly engages those responsible for financial statement preparation to understand the determinants of their behavioral intentions regarding environmental liability treatment and disclosure. It extends the work of Adams (2002) in understanding internal contextual variables, and is unique in its ability to test for the influence of company ownership characteristics by including privately held and not-for-profit organizations, as well as publicly traded companies, in its sample.

Theoretical Model

We use the Theory of Planned Behavior (TPB; Ajzen, 1991, 1988) as the organizing framework in examining intentions to accrue and disclose environmental liabilities. The origins of the TPB are based in social-psychology and the theory has been successfully applied in understanding behavioral intentions across many different business settings (e.g., Flannery & May, 2000; Chang, 1998; Kurland, 1995; Dubinsky & Loken, 1989). The TPB, along with its predecessor, the theory of reasoned action (TRA; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), postulates that human behavior is directly related to behavioral intentions. The theory posits that the intention to perform a specific behavior is the best predictor of that behavior (Fishbein & Ajzen, 1975).

According to the TRA, behavioral intentions are a function of the attitude toward the behavior and the subjective norm about the behavior. Attitudes are defined as the degree to which a person has a favorable or unfavorable evaluation of the behavior in question; subjective norm is a social factor that refers to the perceived social pressure to perform or not to perform the behavior (Ajzen, 1991). Generally, people establish intentions to perform a behavior when they have a positive attitude toward it and when they think that others who are important to them believe they should perform it and they wish to comply with their wishes.

In situations where control is perceived to be incomplete (as would be the case for most accrual and disclosure decisions in an organizational setting), the TPB includes the antecedent variable perceived behavioral control (PBC) in the model explaining behavioral intentions. This variable measures an individual's confidence in his/her ability to perform the behavior based on available resources and requisite opportunities (Ajzen, 1991). The TPB

postulates a strong direct relation between PBC and behavioral intention. Furthermore, research has shown that the addition of a fourth antecedent, perceived moral obligation, makes a significant contribution to the prediction of behavioral intentions (Kurland, 1995; Ajzen, 1991; Randall & Gibson, 1991). As it is likely that environmental disclosures may be seen as having a moral component, including a financial executive's sense of moral obligation has the potential for enhancing the explanatory power of the TPB in predicting accrual and disclosure intentions. Another potentially important construct in the study of ethical behavior is moral intensity (Jones, 1991). Jones (1991) argues that in addition to the personal and situational variables that influence ethical decision choice, ethical decision making is also highly issue dependent, varying across types of ethical problems (e.g., Weber, 1990; Fritzsche & Becker, 1983). Jones (1991) maintains that characteristics of the issue itself, collectively called moral intensity, influence all stages of the ethical decision-making process. Although Jones (1991) posits that moral intensity is comprised of six components, we focus on the dimension of moral intensity that has been demonstrated in prior studies to have the greatest impact on ethical decisions, the magnitude of consequences (Frey, 2000; Morris & McDonald, 1995; Singer & Singer, 1997).

Hypotheses Development

Fig. 1 shows the hypothesized relation among the constructs of interest in this study. A person's favorable or unfavorable attitude toward a particular behavior is related to the intention to engage or not engage in that behavior (Ajzen, 1988; Fishbein & Ajzen, 1975). An attitude is the best predictor of intention when it is directly compatible with the targeted behavioral intention (Fishbein & Ajzen, 1975). Numerous studies support the influence of attitude in establishing intention to engage or not to engage in specific behaviors (Sheppard, Hartwick, & Warshaw, 1988). In this study, we measure executives' attitudes and intentions toward both accrual and disclosure of environmental liabilities, leading to the following hypothesis, consistent with the TPB:

H1. There is a significant, positive relation between attitude toward environmental liability accrual and disclosure, and intention to accrue and disclose environmental liabilities.

The TPB posits that social pressure to perform a particular behavior will be positively related to behavioral intentions. Social pressure is a component

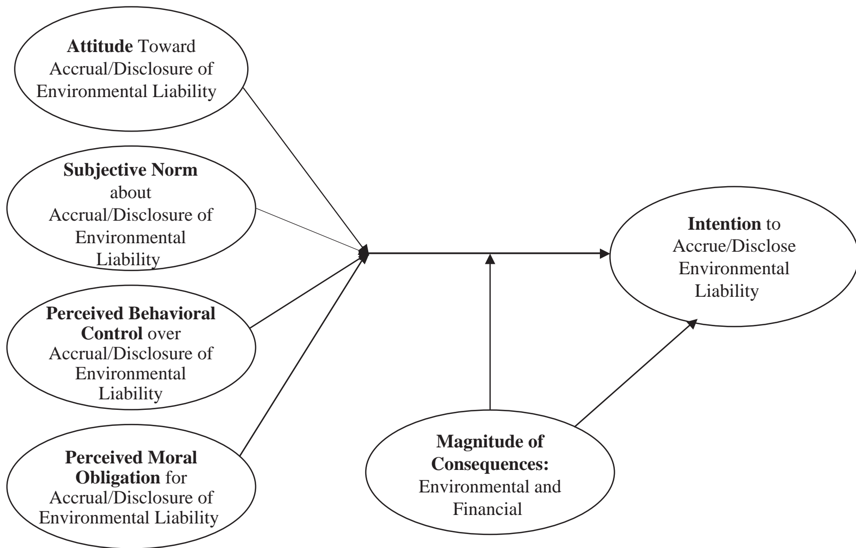

Fig. 1. Factors Influencing Environmental Liability Accrual/Disclosure. An Adaptation and Extension of Ajzen's (1991) Theory of Planned Behavior.

of subjective norms, which are typically measured by asking respondents the extent to which important others would approve or disapprove of the behavior (i.e., normative beliefs) and how much the individual cares about the opinions of these others (motivation to comply). In this study, we measure subjective norm by using specific referents important to the decision-maker in their decision to accrue/disclose environmental liabilities, and refer to this as the belief-based measure of subjective norm. The list of referents used in the study was developed through interviews with a convenience sample of 18 executives representing 14 companies or firms. Those interviewed were senior executives (chairmen, CEOs, presidents, CFOs, controllers, comptrollers, and partners) of a cross-section of companies and firms involved with environmental liabilities from a variety of perspectives (manufacturing, construction, consumer products, environmental engineering, public accounting, environmental law practice, and state regulatory agency). The sample included personal contacts of the researchers, members of the business advisory boards of the researchers' universities, or referrals from one of the advisory board members.

H2. There is a significant, positive relation between the belief-based measure of subjective norm regarding environmental liability accrual and disclosure, and the intention to accrue and disclose environmental liabilities.

Perceived behavioral control (PBC) as conceptualized by Ajzen (1991) in the TPB is consistent with Bandura's (1997) concept of self-efficacy, which is the perception of how well one can execute specific courses of action. A number of studies find support for the additive effect of self-efficacy on intention, beyond the influence of attitude and subjective norm (e.g., Chang, 1998; Kurland, 1995; Madden, Ellen, & Ajzen, 1992; Beck & Ajzen, 1991). Regarding the accrual and disclosure of environmental liabilities, individual executives may have varying degrees of perceived control over these decisions, and this may affect their intentions to accrue and disclose. Without the perceived ability to perform an action, the behavioral intention will be lower across the range of attitudes and subjective norms; thus, we hypothesize:

H3. After controlling for attitude and subjective norm, there is a significant positive relation between perceived behavioral control over environmental liability accrual and disclosure, and the intention to accrue and disclose such a liability.

Several studies of business ethics based on the TPB include perceived moral obligation (PMO) as a determinant of intentions. For example, Kurland (1995) reports that moral obligation is the strongest predictor of insurance agents' ethical intentions. Randall and Gibson (1991) also find moral obligation to be a significant factor predicting intent. Other researchers support the inclusion of the moral obligation variable in the TPB as an antecedent to intention when the target behavior had moral content (e.g., Beck & Ajzen, 1991; Gorsuch & Ortberg, 1983). As it is highly likely that decisions pertaining to environmental liability accrual and disclosure have a moral content for financial executives, we hypothesize:

H4. There is a significant, positive relation between perceived moral obligation to accrue and disclose an environmental liability, and the intention to accrue and disclose such a liability. The greater the moral obligation, the more likely decision-makers will intend to accrue and disclose the liability.

A number of studies demonstrate that issue-specific context is meaningful in influencing ethical intentions or behaviors (Morris & McDonald, 1995; Jones, 1991; Weber, 1990). Accordingly, we hypothesize that the magnitude of consequences (MOC) of the situation is positively related to intentions to accrue and disclose an environmental liability:

H5. There is a significant, positive relation between the magnitude of environmental and financial consequences and the intention to accrue and

disclose environmental liabilities. The greater the magnitude, the more likely it is that decision-makers will intend to accrue and disclose the liability.

In addition to the hypothesized main effect on accrual and disclosure intention, MOC may also act as a moderator between intention and the decision-maker's attitude, subjective norm, behavioral control, and moral obligation. Specifically, it is expected that in the face of heightened financial and environmental consequences (i.e., high MOC), the influence of other antecedent variables will be diminished. We base this hypothesis on Flannery and May's work (2000), which finds MOC to be an important moderating variable in environmental ethical decisions.

H6. The antecedent variables of attitude, subjective norm, behavioral control, and moral obligation will have stronger influence over intentions to accrue and disclose an environmental liability when the magnitude of consequences is low than when it is high.

RESEARCH METHOD

Subjects and Sample

The sample for this study was randomly selected from the U.S.-based members of the Institute of Management Accountants (IMA) whose job title code lists them as an Executive Officer, Corporate Officer, Vice President, or Controller. We used this source based on the belief that decisions to accrue and disclose environmental liabilities are made at the high-levels of company hierarchies. To confirm this belief, we conducted 18 interviews with CEOs, CFOs, and other financial executives, corporate environmental officers, environmental lawyers, environmental consultants, and public accountants. Our interviews confirmed the importance of these decisions, and Reimers' (1992) assertion that financial executives and corporate counsel have the ultimate responsibility for these types of decisions supports this view. We mailed a total of 2,500 surveys, with 10 returned due to bad addresses and 29 respondents indicating their inability to participate because they were retired or unfamiliar with the issues. Excluding these 39 surveys, 263 usable responses represent an 11% response rate. Although the response rate is low, tests for non-response bias showed no significant differences for any of the demographic, dependent, or independent variables of the study.[1] Additionally, the absolute number of responses of 263 provides

enough data points for the analysis. The survey successfully reached targeted respondents, with nearly 90% of respondents classified as financial executives at or above the controller level of the organization.

Survey Instrument

The research instrument for our study consisted of a hypothetical vignette that described a potential environmental liability presented by the discovery of underground storage tanks. Hypothetical vignettes are commonly used to investigate topics that respondents may consider socially sensitive (Morris, Rehbein, Hosseini, & Armacost, 1995; Armacost, Hosseini, Morris, & Rehbein, 1991). Many companies consider the reporting of environmental liabilities a sensitive issue due to the potential dollar magnitude and legal liabilities often associated with environmental issues. In addition to the advantages of reducing apprehension about sensitive issues and mitigating social desirability bias, the use of a common scenario for all respondents improves the validity of responses in that it holds the particular facts of the situation constant (Cavanagh & Fritzsche, 1985). Our vignette was reviewed by environmental specialists for realism, remediation cost estimates, and accurate terminology. The vignette presented the scenario from the perspective of a chief financial officer, and provided information for and against the accrual and disclosure of a contingent liability. The uncertainty of the situation was controlled by identifying possible outcomes (described as Best Case, Moderate Case and Worst Case scenarios), along with their associated costs and probabilities. To test the moderating effect of MOC, two different versions of the vignette were created (describing either a low or high magnitude of consequences) and were randomly sent to the participants. Along with the vignette, we provided an excerpt from SFAS No. 5, Accounting for Contingencies (FASB, 1975), followed by the questionnaire. The vignettes and full questionnaire are included as the appendix to this chapter.

Variable Measurement

Dependent Variables

Since accrual and disclosure of contingent environmental liabilities are two related but separate decisions, we explore both (1) intention to accrue a material contingent environmental remediation liability (hereafter, intention

to accrue) and (2) intention to make full disclosure in the notes to the financial statements about a contingent environmental liability (hereafter, intention to disclose). We measured the accrual and disclosure variables in two ways. First, following Fishbein and Ajzen (1975), we measure the likelihood of accrual by asking respondents to indicate on a seven-point scale the likelihood that they would accrue a material dollar amount if faced with the hypothetical situation. Similarly, we measured likelihood of disclosure by asking respondents to indicate the likelihood they would make full disclosure in the notes to the financial statements if they faced a situation in their company similar to the one in the hypothetical case.

We also measured intention to disclose by asking the respondent to make a choice from among six financial footnote options that represented increasing levels of disclosure with 1 being no disclosure and 6 being full disclosure. Finally, we asked respondents how much they would accrue, if any, if they faced a situation in their own company similar to the one presented in the hypothetical case.

Independent Variables

Attitude. Consistent with the TPB, we measured the respondent's attitude toward accrual and disclosure of environmental liabilities by averaging the responses to three semantic differential scale items, each of which asked respondents to rate the target behavior along a seven-point scale ranging from 1 = strongly disagree to 7 = strongly agree. These semantic differential items described the target behavior at a level of specificity that corresponds with the measurement of behavioral intention.

Subjective Norm. To measure subjective norm, we began with a convenience sample of financial executives from a pilot study to elicit normative beliefs about those others who are likely to be important to the decisions to accrue or disclose environmental liabilities. We found the salient referents include the company CEO, outside auditors, internal legal counsel, external legal counsel, engineers/technical experts, and the company board of directors/audit committee. In the present study, normative belief was measured as the extent to which the participants believed that each of these six individuals or groups would want them to accrue/disclose the environmental liability if they faced a situation in their company similar to the one in the vignette. We also asked respondents how likely they would be to comply with the opinion of each referent, called motivation to comply. The subjective norm measure was calculated as the sum of the cross products of normative belief and motivation to comply.

Perceived Behavioral Control. Following a number of previous studies that use the TPB to understand and predict behavior (Flannery & May, 2000; Cordano & Frieze, 2000; Beck & Ajzen, 1991), we measured perceived behavioral control (PBC) by averaging three items that asked respondents to rate the extent to which they felt control over the behavior in question, and the ease or difficulty of executing the behavior. These items are measures of the extent to which financial executives believe they have the authority and knowledge to make decisions about the accrual or disclosure of environmental liabilities.

Perceived Moral Obligation. We developed three items to measure perceived moral obligation (PMO) based on scales used in previous studies (e.g., Flannery & May, 2000; Beck & Ajzen, 1991; Randall & Gibson, 1991; Gorsuch & Ortberg, 1983). These items measured the extent to which respondents felt a sense of moral obligation to accrue or disclose an environmental liability if faced with a situation such as that described in the vignette.

Magnitude of Consequences. Magnitude of consequences was manipulated in a between-subjects test of its influence on intention to accrue and disclose. The vignette was varied between high and low values of MOC by describing the contents of the underground storage tanks as having been either waste fuel oil with little environmental impact (low MOC) or chlorinated solvents known to be highly toxic and persistent in the environment (high MOC). The manipulation was strengthened by increasing the cost estimates of cleaning up the underground storage tanks in the high MOC vignette versus the low MOC vignette. MOC is coded as a dummy variable, with "0" indicating the low MOC treatment, and "1" indicating the high MOC treatment.

Other Variables. A number of variables were included to control for possible extraneous influences over the dependent variables. These were age, gender, job title, environmental liability experience, years in current position, years with present company, ownership characteristics of company, company size, and industry classification of employing company. We also employed a measure of social desirability bias to control for its effects, adapted from Fischer and Fick (1993).

RESULTS

Descriptive Statistics

Table 1 displays the descriptive statistics for the demographic variables measured in the study. The majority of the respondents report having had some personal experience with environmental liability decisions, with 13% indicating that they deal with such issues routinely and another 45% indicating that they have been involved in these decisions to some extent during their careers.[2] The average age of the respondents is between 45 and 50 years, and 80% of respondents are male. The average years in their current position is seven years, and the average time with their present company is eight years and eight months. Respondents were well dispersed across industry classification and firm size.

Table 2 shows correlations of the variables as well as the Cronbach alpha coefficients (on the diagonal) for the multi-item scales (Cohen, Cohen, West, & Aiken, 2003; Cronbach, 1951). Tests indicate acceptable reliability,[3] and evidence that multicollinearity is not a significant problem for the models tested (Cohen et al., 2003).[4] A principal components factor analysis with varimax rotation provides evidence of convergent and divergent construct validity for the measures.[5]

The descriptive statistics for the intention to accrue (likelihood of accrual and amount accrued) and the intention to disclose (likelihood of disclosure and disclosure category), as well as for all interval scaled independent variables, are shown in Table 3. The mean (median) value for likelihood of accrual is 5.24 (6.00) on a seven-point scale, pointing to a relatively high level of intention to accrue. This high accrual intention is noteworthy, given the discretionary nature of the liability recognition for the internally discovered underground storage tank. The mean likelihood of disclosure is lower (4.68, median = 6.0), indicating a greater reluctance to fully disclose the contingent liability in the notes to the financial statements than to accrue it.

Control Variables

To remove any extraneous influences from the model, we control for covariates that are potentially linked to the dependent variables. An effective covariate is one that is highly correlated with the dependent variable(s) but not correlated with the independent variables. Additionally, the covariates must have a homogeneity of regression effect, meaning that the effect of the

Table 1. Demographic Characteristics of Sample.

		Mean	Standard Deviation	Minimum–Maximum	Percentage
Age (based on midpoints of ranges)		46.7		26–75	
Years in current position		7.0	6.1	1–33	
Years with company		8.7	8.3	1–39	
Gender	Female				18
	Male				82
Job title	Owner/CEO/President				4
	Chief Financial Officer				24
	VP Finance/Treasurer				12
	Controller/Assistant Controller				49
	Other				11
Environmental liability experience	None				42
	Some				45
	Routine				13
Ownership structure of company	Publicly held				31
	Privately held				44
	Not-for-profit/Government				25
Company size	<= 100 Employees				30
	101–1000 Employees				45
	>1001 Employees				25
Industry classification	Food/Textiles/Lumber				12
	Chemicals/Petroleum Refining				8
	Primary/Fabricated Metals				11
	Machinery/Equipment/Autos				14
	All Other Manufacturing				15
	Mining/Utilities/Transportation				6
	Construction				7
	Wholesale/Retail Trade				10
	Other (Finance/Government/other)				17

covariates on the dependent variables must be equal across all treatment groups (Hair, Anderson, Tatham, & Black, 1998). Applying these criteria, we analyze the relationships between the demographic variables (*age*, *gender*, *job title*, *environmental liability experience*, *years in current position*, *years with present company*, *ownership characteristics of company*, *company size*, and *industry classification*) and all dependent variables (*likelihood of accrual*, *likelihood of disclosure, amount accrued*, and *disclosure category*). Because many of the demographic variables are categorical, we analyze the relationships between these factors and the dependent variables by performing one-way analysis of variance (ANOVA).[6]

Table 2. Pearson Correlation Coefficients and Scale Reliabilities (Cronbach Alphas) of Key Variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Likelihood of accrual	NA											
2. Likelihood of disclosure	.42**	NA										
3. Amount accrued	.27**	.24**	NA									
4. Disclosure category	.47**	.63**	.22**	NA								
5. General attitude–accrual	.64**	.41**	.22**	.50**	(.82)							
6. General attitude–disclosure	.30**	.41**	.22**	.50**	.57**	(.84)						
7. Subjective norm–accrual	.47**	.36**	.25**	.38**	.54**	.35**	(.85)					
8. Subjective norm–disclosure	.23**	.50**	.24**	.37**	.36**	.56**	.71**	(.85)				
9. Perceived behavioral control–accrual	.31**	.13*	.06	.08	.25**	.06	.24**	.13*	(.85)			
10. Perceived behavioral control–disclosure	.24**	.19**	.08	.12*	.13 *	.20**	.22**	.28*	.79**	(.86)		
11. Perceived moral obligation–accrual	.53**	.40**	.22**	.39**	.67**	.42**	.54**	.35**	.27**	.18**	(.70)	
12. Perceived moral obligation–disclosure	.21**	.56**	.19**	.43**	.38**	.73**	.36**	.60**	.05	.26**	.60**	(.83)

Cronbach alphas are shown on diagonal. Reliabilities are not applicable for those variables measured using a single item.
*$p < .05$ (two-tailed tests).
**$p < .01$ (two-tailed tests).

Table 3. Descriptive Statistics.

	Variable	Mean	Standard Deviation
1.	Likelihood of accrual	5.24	1.95
2.	Likelihood of disclosure	4.68	2.06
3.	Amount accrued	$99,188	$149,415
4.	Disclosure category	4.57	1.85
5.	General attitude–accrual	4.95	1.40
6.	General attitude–disclosure	4.74	1.51
7.	Subjective norm–accrual	35.49	40.98
8.	Subjective norm–disclosure	31.50	41.47
9.	Perceived behavioral control–accrual	4.69	1.59
10.	Perceived behavioral control–disclosure	4.32	1.63
11.	Perceived moral obligation–accrual	5.46	1.35
12.	Perceived moral obligation–disclosure	5.23	1.56
13.	Social desirability	4.19	.87

Of the possible control variables considered, only the ownership characteristic of the organization is correlated with any of the dependent variables – specifically with likelihood of accrual and disclosure category. The ANOVA shows that respondents from privately held companies are less likely to accrue an environmental liability and generally choose a lower level of disclosure than those from publicly held companies or government/ not-for-profit organizations. The ANOVA indicates that there is a significant difference in the mean of likelihood of accrual ($F_{2,\ 256} = 4.173$, $p = .016$) and the mean of disclosure category ($F_{2,\ 251} = 3.018$, $p = .051$) between the three classifications of ownership characteristics. The present study is unique in its ability to test the impact of ownership characteristic in that the sample of firms includes privately held and not-for-profit organizations, as well as publicly traded corporations. It is interesting to note that company size is not significantly related to the likelihood of accrual or disclosure. This seems to run counter to prior research, which has supported the notion that company size affects environmental liability disclosure (Cowen et al., 1987).

Based on the results of the correlation analysis and the ANOVA, the demographic variable ownership characteristic of company is entered into the regression equations to control for its effect on the dependent variables likelihood of accrual and disclosure category. We use two dummy variables (public and not-for-profit/government) to code the three levels of the ownership characteristic variable. As such, the referent condition is privately held firms.

Manipulation Check

Two questions on the survey instrument were designed to test the success of the manipulation of magnitude of consequences by asking respondents to rate the extent of environmental hazard (1 = low and 10 = high) and the extent of the financial impact (1 = low and 10 = high) of the hypothetical scenario. It was expected that those participants who had received the low MOC scenario (Vignette 1) would rate these two items low and those who had received high MOC scenario (Vignette 2) would rate the two items high. Analysis of these two survey items indicates that 140 of the 263 respondents rate these items consistent with expectations: that is, they rate them less than or equal to 5 for the low MOC scenario and greater than or equal to 5 for the high MOC scenario. The inference drawn from this analysis is that these 140 respondents attended to and understood the intended manipulation of MOC.

H1 through H4 (pertaining to the influences of attitude, subjective norm, perceived behavioral control and perceived moral obligation) do not depend on the manipulation of magnitude of consequences. Accordingly, the full sample ($n = 263$) is used to tests these hypotheses. H5 and H6, which pertain specifically to the expected influence of magnitude of consequences, are tested using the restricted sample ($n = 140$).[7]

Relationship between Independent Variables and Intention to Accrue an Environmental Liability

The following ordinary least squares regression equation represents the full model used to test our hypotheses.[8] By employing the method of hierarchical regression analysis, independent variables were entered in steps according to the TPB.

$$\begin{aligned}\text{Likelihood of accrual} = {} & \beta_0 + \beta_1\text{SocDes} + \beta_2\text{Public} + \beta_3\text{NFP/Gov} \\ & + \beta_4\text{Att}_{\text{Accrual}} + \beta_5\text{SN}_{\text{Accrual}} + \beta_6\text{PBC}_{\text{Accrual}} \\ & + \beta_7\text{PMO}_{\text{Accrual}} + \beta_8\text{MOC} + \beta_9(\text{MOC} \\ & \times \text{Att}_{\text{Accrual}}) + \beta_{10}(\text{MOC} \times \text{SN}_{\text{Accrual}}) \\ & + \beta_{11}(\text{MOC} \times \text{PBC}_{\text{Accrual}}) + \beta_{12}(\text{MOC} \\ & \times \text{PMO}_{\text{Accrual}}) \end{aligned} \tag{1}$$

where:

SocDes	Social desirability bias
Public	Publicly traded companies (component of *ownership characteristics*)
NFP/Gov	Not-for-profit/Government (component of *ownership characteristics*)
$\mathrm{Att}_{\mathrm{Accrual}}$	Attitude toward accrual
$\mathrm{SN}_{\mathrm{Accrual}}$	Subjective norm regarding accrual
$\mathrm{PBC}_{\mathrm{Accrual}}$	Perceived behavioral control over accrual
$\mathrm{PMO}_{\mathrm{Accrual}}$	Perceived moral obligation to accrue
MOC	Magnitude of consequences

In the first step of the regression analysis, likelihood of accrual is regressed on the ownership characteristics (Public and NFP/Gov) and social desirability bias (adjusted $R^2 = .041$, F Change $_{3,\ 254} = 4.66$, $p = .002$). In the second step, we enter the independent variables associated with the TPB – attitude toward accrual, subjective norm regarding accrual, and PBC for accrual. This model has an adjusted R^2 of .442, representing an improvement in the model that is significant at the .001 level (F Change $_{3,\ 251} = 61.93$). PMO to accrue is added in the third step, and the model adjusted R^2 again improves significantly to .448 (F Change $_{1,\ 250} = 3.56$, $p = .030$). These results suggest that the TPB, as modified to include PMO as an independent variable, account for a significant amount of the variance in the likelihood to accrue an environmental liability.

H1 asserts that the more positive the attitude of executives toward environmental liability accrual, the stronger will be their intention to accrue. As shown in Table 4, the results of the regression analysis are consistent with H1, with $\mathrm{Atttitude}_{\mathrm{Acc}}$ significantly and positively related to the likelihood of accrual ($p = .000$).[9]

H2 predicts that intention to accrue is positively associated with subjective norm ($\mathrm{Subjective\ Norm}_{\mathrm{Acc}}$). Table 4 shows that this hypothesis is supported for likelihood of accrual ($p = .011$), indicating that the decisions to accrue an environmental liability are significantly related to what decision-makers believe important referents (such as their CEO, auditors, and legal counsel) will think they should do. However, this effect is not significant when the MOC variable is added to the equation in step 4. As expected in H3, the likelihood of accrual is significantly and positively related to the respondents' PBC ($p = .001$), suggesting that individuals who perceive themselves to be in control of environmental liability accrual decisions will be the most likely to establish the intention to accrue.

Table 4. OLS Regression Results for Intention to Accrue Environmental Liabilities.

Dependent Variable	Likelihood of Accrual			Amount Accrued		
		Full sample TPB	Restricted sample w/MOC		Full sample TPB	Restricted sample w/MOC
Independent variable	Predicted sign	β	β	Predicted sign	β	β
Social desirability	+/−	.032	.113	+/−	.004	−.048
Public	+/−	.094	.136*	NA	NA	NA
Not-for-profit/Government	+/−	.058	.053	NA	NA	NA
$\text{Attitude}_{\text{Acc}}$	+	.453**	.651**	+	.077	.110
$\text{Subjective norm}_{\text{Acc}}$	+	.102*	−.005	+	.164*	.128
$\text{Perceived behavioral control}_{\text{Acc}}$	+	.140**	.137*	+	−.013	.012
$\text{Perceived moral obligation}_{\text{Acc}}$	+	.124*	−.025	+	.082	.071
Magnitude of consequences	+		.110*	+		.218**
$\text{Attitude}_{\text{Acc}} \times \text{MOC}$	−			−		
$\text{Subjective norm}_{\text{Acc}} \times \text{MOC}$	−			−		
$\text{PBC}_{\text{Acc}} \times \text{MOC}$	−			−		
$\text{PMO}_{\text{Acc}} \times \text{MOC}$	−			−		
N		258	136		254	135
F Change	+	3.56*	3.22*	+	0.91	6.62**
Adjusted R^2 (full sample)		.448			.055	
Adjusted R^2 (restricted sample)		.515	.523		.051	.091

One-sided p-values are reported for variables with predicted signs; otherwise, two-sided p-values are used.
$^{**}p < .01$.
$^{*}p < .05$.

H4 adds PMO to the TPB as a determinant of intention to accrue an environmental liability, based on the presumption that these decisions have moral content. The relatively high mean values for PMO (5.46) substantiate the claim that respondents believe these decisions are ethical in nature. The beta coefficient for PMO is significant and positive ($p = .030$), supporting H4; that is, the higher the degree of perceived moral obligation to accrue an environmental liability, the more likely will be the intention to accrue such a liability. As with subjective norm, PMO is not significant when MOC is added in step 4.

H5 and H6 pertain to the main and moderating effects of MOC. Using the restricted sample ($n = 140$), the first three steps of the regression are repeated, with similar results.[10] MOC is added to the model in Step 4 of the

regression. The addition of MOC to the model results in a significant improvement in the model's adjusted R^2, (F Change $_{1,\ 127} = 3.22$, $p = .038$), indicating that the higher the MOC, the more likely respondents are to accrue an environmental liability. Step 5 of the regression adds the interaction variables, created by multiplying MOC by each of the other centered independent variables, to test the moderating effect of MOC. The addition of the interaction terms, however, does not result in a significant improvement in the model adjusted R^2, (F Change $_{4,\ 123} = 0.83$, $p = .256$), indicating a lack of support for the hypothesized moderating effect of MOC on likelihood of accrual. Consequently, it is not meaningful to examine the individual beta coefficients of the interaction terms (Hair et al., 1998; Cohen & Cohen, 1983), and this step is not reported in Table 4.

In addition to using likelihood of accrual as the dependent variable, we also regressed the amount the respondent indicated should be accrued on the same variables shown in Eq. (1).

$$\begin{aligned}\text{Amount accrued} = {} & \beta_0 + \beta_1\text{SocDes} + \beta_2\text{Att}_{\text{Accrual}} + \beta_3\text{SN}_{\text{Accrual}} \\ & + \beta_4\text{PBC}_{\text{Accrual}} + \beta_5\text{PMO}_{\text{Accrual}} + \beta_8\text{MOC} \\ & + \beta_9(\text{MOC} \times \text{Att}_{\text{Accrual}}) + \beta_{10}(\text{MOC} \times \text{SN}_{\text{Accrual}}) \\ & + \beta_{11}(\text{MOC} \times \text{PBC}_{\text{Accrual}}) \\ & + \beta_{12}(\text{MOC} \times \text{PMO}_{\text{Accrual}}) \qquad (2)\end{aligned}$$

where all variables are defined as in Eq. (1) earlier. These results are also shown in Table 4. Step 2 indicates that both attitude toward accrual ($p = .050$) and subjective norm ($p = .006$) have significant positive associations with the amount that respondents chose to accrue. No significant improvement in the model is observed in step 3 with the addition of PMO to accrue. The addition of MOC in step 4 significantly improves the model (F Change $_{1,\ 128} = 6.62$, $p = .006$). This result is consistent with the expectation that respondents would accrue more in the case where the financial impact was expected to be higher (i.e., in the high MOC scenario). The addition of the interaction terms in step 5 does not significantly improve the model adjusted R^2 (F Change $_{4,\ 124} = 0.38$, $p = .412$); thus, step 5 is not reported in Table 4.

Relation between Independent Variables and Intention to Disclose an Environmental Liability

The next series of regression analyses focus on the dependent variable intention to disclose an environmental liability, using likelihood of disclosure as the first measure of intention (Table 5).

Table 5. OLS Regression Results for Intention to Disclose Environmental Liabilities.

Dependent Variable	Likelihood of Disclosure			Disclosure Category			
		Full sample TPB	Restricted sample w/MOC		Full sample TPB	Restricted sample w/MOC	Restricted sample w/ interactions
Independent variable	Predicted sign	β	β	Predicted sign	β	β	β
Social desirability	+/−	.023	.070	+/−	−.010	.010	.037
Public	NA	NA	NA	+/−	.086	.094	.097
Not-for-profit/Government	NA	NA	NA	+/−	.080	.032	.023
$Attitude_{Dis}$	+	.564**	.557**	+	.495**	.458**	.835**
Subjective $norm_{Dis}$	+	.147**	.205**	+	.085	.116	.382*
Perceived behavioral $control_{Dis}$	+	.016	−.036	+	−.012	−.078	.106
Perceived moral $obligation_{Dis}$	+	.049	−.105	+	.017	−.155	−.547**
Magnitude of consequences	+		.050	+		.178*	.132
$Attitude_{Dis} \times MOC$	−			−			−.507**
Subjective $norm_{Dis} \times MOC$	−			−			−.281
$PBC_{Dis} \times MOC$	−			−			−.213
$PMO_{Dis} \times MOC$	−			−			.469**
N		259	137		253	135	135
F Change	+	0.48	0.47	+	0.04	4.59*	4.52**
Adjusted R^2 (full sample)		.482			.308		
Adjusted R^2 (restricted sample)		.385	.382		.207	.229	.306

One-sided p-values are reported for variables with predicted signs; otherwise, two-sided p-values are used.
**$p < .01$.
*$p < .05$.

$$\begin{aligned}\text{Likelihood of disclosure} = {} & \beta_0 + \beta_1\text{SocDes} + \beta_2\text{Att}_{\text{Dis}} + \beta_3\text{SN}_{\text{Dis}} + \beta_4\text{PBC}_{\text{Dis}} \\ & + \beta_5\text{PMO}_{\text{Dis}} + \beta_6\text{MOC} + \beta_7(\text{MOC} \times \text{Att}_{\text{Dis}}) \\ & + \beta_8(\text{MOC} \times \text{SN}_{\text{Dis}}) + \beta_9(\text{MOC} \times \text{PBC}_{\text{Dis}}) \\ & + \beta_{10}(\text{MOC} \times \text{PMO}_{\text{Dis}}) \end{aligned} \tag{3}$$

where:

SocDes	Social desirability bias
Att_{Dis}	Attitude toward disclosure
SN_{Dis}	Subjective norm regarding disclosure
PBC_{Dis}	Perceived behavioral control over disclosure
PMO_{Dis}	Perceived moral obligation to disclose
MOC	Magnitude of consequences

This model achieves an adjusted R^2 of .482 in the third step. The beta coefficient estimate for the respondent's attitude toward disclosure is positive and significant ($p = .000$), which supports H1 for intentions to disclose environmental liabilities as measured by likelihood of disclosure. H2, which expects likelihood of disclosure to be positively related to subjective norm, is also supported by the data ($p = .002$). H3 and H4 are not supported in that the variables PBC and PMO are not significantly related to the dependent variable likelihood of disclosure.

Paralleling the analysis of Hypotheses 5 and 6 for likelihood of accrual, the main and moderating effects of MOC on the dependent variable likelihood of disclosure are tested using the restricted sample. MOC does not have a significant effect on likelihood of disclosure, either alone or in interaction with the other dependent variables.

To examine the content of the disclosure intention, respondents were asked to select from among a series of disclosure statements the one that best described the note to the financial statements they would use if they faced a situation similar to the one in the hypothetical case. Disclosure category is regressed on the independent variables using hierarchical regression analysis similar to that described earlier for likelihood of disclosure.

$$\begin{aligned}\text{Disclosure category} = {} & \beta_0 + \beta_1\text{SocDes} + \beta_2\text{Public} + \beta_3\text{NFP/Gov} + \beta_4\text{Att}_{\text{Dis}} \\ & + \beta_5\text{SN}_{\text{Dis}} + \beta_6\text{PBC}_{\text{Dis}} + \beta_7\text{PMO}_{\text{Dis}} + \beta_8\text{MOC} \\ & + \beta_9(\text{MOC} \times \text{Att}_{\text{Dis}}) + \beta_{10}(\text{MOC} \times \text{SN}_{\text{Dis}}) \\ & + \beta_{11}(\text{MOC} \times \text{PBC}_{\text{Dis}}) + \beta_{12}(\text{MOC} \times \text{PMO}_{\text{Dis}}) \end{aligned} \tag{4}$$

where all variables are defined as in Eqs. (1) and (3). The results are shown in Table 5. A significant change in adjusted R^2 results when the variables pertaining to the TPB are added in step 2 (F Change $_{3,\ 246} = 36.50$, $p < .001$), but the addition of PMO in step 3 does not result in a significant improvement in the adjusted R^2. The individual variables with significant and positive beta coefficients are attitude toward disclosure ($p = .000$) and subjective norm (marginally significant at $p = .107$).

Using the restricted sample, the addition of MOC in step 4 significantly improves the model adjusted R^2 from .207 to .229 (F Change $_{1,\ 126} = 4.59$, $p = .017$), indicating a positive influence over disclosure category.[11] The disclosure category is the only dependent variable for which the interaction terms are significant. The addition of the interaction terms in step 5 of the regression significantly improves the model adjusted R^2 from .229 to .306 (F Change $_{4,\ 122} = 4.52$, $p = .001$). The individual interaction terms that have significant beta coefficients are: attitude toward disclosure $\times$ MOC ($p = .001$) and PMO $\times$ MOC ($p = .007$). Plotting the nature of these interactions (Figs. 2a and 2b) shows support for Hypothesis 6, that the influence of the predictor variable attitude toward disclosure on the response variable disclosure category is reduced when magnitude of consequences is high versus when it is low. However, contrary to our

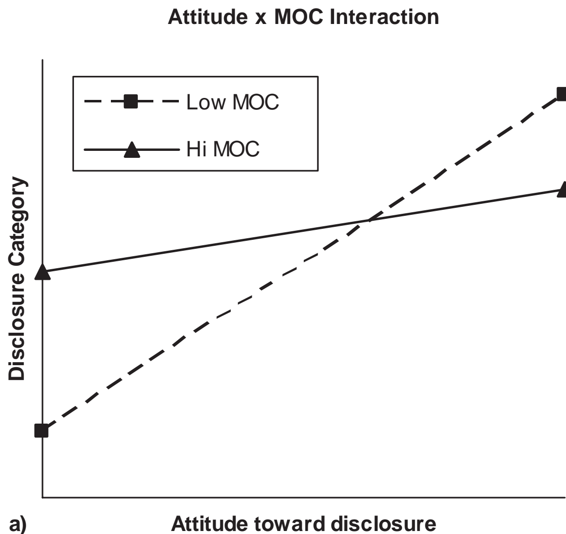

Fig. 2a. Plot of Interaction between Attitude toward Disclosure and Magnitude of Consequences.

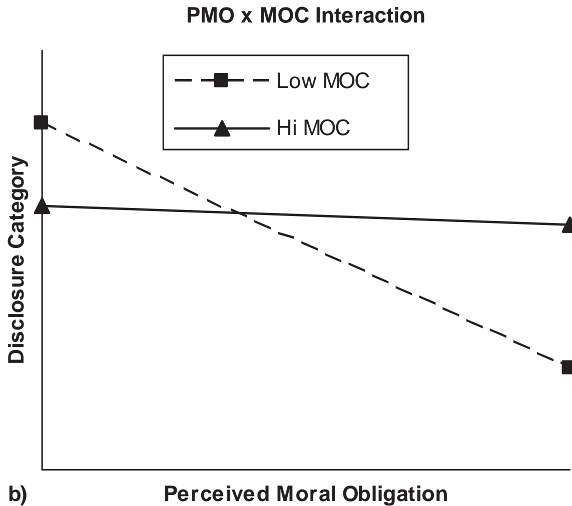

Fig. 2b. Plot of Interaction between Perceived Moral Obligation and Magnitude of Consequences.

expectations, perceived moral obligation actually has a greater influence on disclosure category in the case where magnitude of consequences is high.

DISCUSSION AND CONCLUSIONS

Discussion of Results

The models developed in this study, based on the theory of planned behavior, are successful in explaining nearly 50% of the variation in the likelihood that financial executives will accrue and disclose a discretionary contingent environmental liability. The findings indicate that the intentions to accrue and disclose environmental liabilities are significantly related to individual and social variables, with individual factors having the greatest weight. The most important of these individual factors is attitude, and this is related to underlying beliefs, both favorable and unfavorable, about the outcomes associated with accrual and disclosure of environmental liabilities.

In addition to providing evidence of the importance of attitudes, this study also supports the contention that the intention to accrue is related to executives' perceived behavioral control. It suggests that individuals who

perceive that they are in control of environmental liability accrual decisions are most likely to make an accrual. Perceived moral obligation appears to have a significant positive effect on the likelihood that an executive would accrue an environmental liability, but not on the intention to disclose it. The results of this study also suggest that social variables play an important role in the intentions of financial executives to accrue and disclose environmental liabilities. Subjective norm is highly correlated with these intentions when the specific referent groups of company CEO, the Board of Directors/Audit Committee, outside auditors, legal counsel, and technical experts are named.

The magnitude of environmental and financial consequences can also play an important role in influencing accrual and disclosure intentions. Our results suggest that decision-makers are more likely to accrue an environmental liability, intend to accrue more, and will choose a higher level of disclosure when the magnitude of consequences is high. This is a rather encouraging result, and arguments might have been made to the contrary – that respondents would be reluctant to disclose environmental liabilities for which the environmental and financial stakes are high. Nonetheless, this study provides evidence that a high degree of financial and environmental consequence is associated with a higher likelihood of disclosure and more likely accrual.

Another notable result of the present study is the difference between publicly traded and privately held companies. The data suggests that executives from privately held companies are significantly less likely to accrue an environmental liability, and choose a lower level of disclosure than their publicly traded counterparts. It may be that the greater scrutiny felt by publicly traded companies serves as an incentive in ensuring more responsible environmental accounting practices.

Limitations

It should be noted that the scope of the study is limited to environmental liability accrual and disclosure intentions associated with an internally discovered potential liability. The findings should, therefore, be interpreted only in this context and cannot be generalized to other types of environmental liability situations. Another potential limitation of the study is the fact that it attempts to capture a complex decision in an experimental setting. Although we were careful to incorporate realistic information in the case, decision-makers in a real decision would likely have more extensive

information available to them. The ability to generalize the results is further limited by all survey respondents being from the U.S. members of the Institute of Management Accountants.

We acknowledge the possibility of common method variance as a potential bias to the study results. Common method variance may be present when all variables are measured using the same survey instrument (Converse & Presser, 1986). Following Konrad and Linnehan (1995), we tested for the possible effects of common method variance using principal components factor analysis. Since multiple factors emerged, and the first factor accounts for a relatively small percentage of the total variation, common method variance does not appear to be a source of bias for this study's results.

Finally, as with any cross-sectional survey, we cannot make claims to the direction of causality in our model. The application of a well-tested social psychology theory, however, provides some credence to the hypothesized relation among the variables.

Implications and Further Research

The focus of this study is on the behavioral intentions of individuals who influence the accounting treatment and disclosure of discretionary environmental liabilities. Understanding the factors that motivate the intentions of individual decision-makers is an important component of understanding the behavioral outcomes at the organizational level. When faced with a situation such as the one presented in the hypothetical vignette, a majority of respondents indicated a high likelihood of accruing and disclosing the environmental liability. Sixty-four percent indicated that they would be quite likely or extremely likely to make this accrual, with only 17% saying that they would be quite or extremely unlikely to accrue the expense. When questioned about their reasons for charging this expense to current income, the reasons that were most highly correlated with their likelihood of accrual included their desire to fulfill their obligation to fully inform users of financial statements, to show a conservative approach to financial reporting, and to have one's company viewed as acting responsibly in managing environmental issues. In terms of disclosure, 68% said that they would make a footnote disclosure in the financial statements acknowledging the accrual, although a small portion of these would not state the dollar amount of the accrual. Fewer than 17% indicated that they would not disclose the potential for environmental costs or would make a statement indicating

that no material adverse effect on the company was expected from the environmental issue.

Clearly there are contextual factors that mediate and moderate the relation between individual intentions and organizational behaviors. These factors very likely include other elements of internal context, such as corporate structure, governance processes, and organization culture (Adams, 2002). External contextual factors and organizational characteristics may also impact the nexus of individual intentions and organizational outcomes. Factors such as firm size and industry classification, which have been consistently shown in the literature as being correlated with CSR, do not seem to play a role in influencing the intentions of individual respondents to accrue and disclose environmental liabilities. But these variables may well influence the outcomes at the level of the organization. The weight of these various influences over the eventual accrual and disclosure of environmental liabilities continues to be of interest to those who seek greater organizational transparency and accountability for environmental liabilities, and this offers fertile ground for future study. This chapter has attempted to contribute to this work by examining the influences on individual decision-makers and their behavioral intentions in the domain of environmental liability reporting. These findings suggest that encouraging positive attitudes toward environmental accruals and disclosures, enhancing the behavioral control of financial executives over the accrual decision, and heightening their moral obligation to disclose these liabilities may lead to better accounting treatment and transparency of environmental matters.

NOTES

1. Non-response bias is tested by comparing the means of the first and last 5% of respondents, and again, using the first and last 10% of respondents. This method assumes that late respondents are similar to non-respondents (Pace, 1939). The tests indicate no significant differences for any of the dependent or independent variables.

2. An analysis of variance (ANOVA) shows that there is no significant difference in the mean values of any of the dependent variables across the three classifications of environmental liability experience levels (none, some or routine).

3. Acceptable reliability is defined by Nunnally and Bernstein (1994) as greater than .70 for predictive or construct validation research.

4. All tolerance statistics exceed .20 for the variables in question (Cohen et al., 2003).

5. Discriminant validity of the measures is supported by the factor analysis for the variables subjective norms, PBC, and amount accrued. All items measuring attitude

toward accrual load on the same factor, as do the items measuring attitude toward disclosure. There is minor overlap in factor loadings for the items measuring PMO and attitude, indicating that the variables for attitude and PMO seem to be closely related.

6. Since the cell sizes are not equal, Kruskal–Wallis non-parametric tests are also run to determine the influence of the demographic variables on the dependent variables. The results are nearly identical to the results of the ANOVA, with *ownership characteristic* the only demographic variable having a significant effect on the dependent variable *likelihood of accrual* ($\chi^2 = 8.545$, d.f. $= 2$, $p = .014$).

7. The restricted sample is also used for all analyses; the results are essentially the same as the full sample with one notable exception. For the dependent variable likelihood of accrual, the predictor variables *perceived moral obligation to accrue* and *subjective norm* are significant using the full sample (p-values equal to .030 and .040, respectively) but are not significant using the restricted sample (p-values equal to .396 and .472, respectively).

8. Diagnostic tests of the regression model support the assumptions of linearity of the relationships, independent error terms, and non-influential outliers. The evidence as to normality of the variables and residuals, and the homogeneity of variance, is mixed. Non-parametric tests were considered, but given that our sample size is relatively large and that our tests are complex (e.g., testing for interactions), we felt that the parametric tests were the preferred analytical tools.

9. All directional hypotheses regarding the influence of independent variables are tested using one-tailed t test of significance.

10. When using the restricted sample, step 3 of the regression model shows less significant coefficients for *perceived moral obligation* and *subjective norm* than when using the full sample.

11. The adjusted R^2 after step 3 is .308 using the full sample, but is only .207 using the restricted sample. Thus, the step 4 adjusted R^2 of .229 is an improvement over .207, using the restricted sample.

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APPENDIX. RESEARCH INSTRUMENT

Underground Storage Tanks (Vignette 1, Low Magnitude of Consequences)

Chris Carr, the Chief Financial Officer of a manufacturing company, has become aware of a situation that may require recording a contingent liability for environmental clean-up costs.

In a recent conversation with the plant controller from one of the company's manufacturing sites, mention was made of the discovery of an old underground tank field, comprised of three 10,000-gallon storage tanks. The tanks had once stored fuel oil, but have not been in use for many years. The tanks are currently empty, but no one is sure if any leakage has occurred over the years. This is of some concern, as the tanks are situated near an aquifer that feeds the water supply of nearby communities. However, this concern is lessened by the fact that petroleum has a tendency to dissipate over time and distance, and simple filtration systems are able to remove it.

At present, the environmental regulatory agencies are not aware of the tanks, and the company has not engaged in a formal Preliminary Assessment/Site Investigation. Nonetheless, the plant engineers and cost accountants have worked up rough estimates of the costs associated with several possible scenarios, as shown below:

Scenario	Description	Cost Estimate	Likelihood of Scenario (%)
Best case	Removal of tanks, piping, and pumps; no leakage	\$15,000–\$20,000	15–20
Moderate case	Removal of tanks; evidence of leakage; remediation of adjacent soil required	\$50,000–\$60,000	45–55
Worst case	Removal of tanks; evidence of leakage; significant contamination of ground water; extensive ground- water clean-up required	\$340,000–\$350,000	25–35

The company's threshold for materiality is about \$35,000. Total assets are currently \$5,000,000 and pre-tax income from continuing operations averages about \$700,000 per year.

Chris Carr has spoken to the head of Corporate Counsel about the situation with the storage tanks. The attorney suggested that if the Worst Case Scenario exists, with significant contamination to the water supply, another \$350,000 liability could arise due to legal fees and litigation. There is no potential recovery from third parties; Carr's company has been the sole owner of the manufacturing site since its inception.

Accounting Guidance

Seeking guidance from Generally Accepted Accounting Principles about the appropriate accounting treatment for this potential liability, Carr finds that the issue falls under the guidance of Financial Accounting Standards Board (FASB) Statement No. 5, *Accounting for Contingencies*, which requires the accrual of a liability if

(a) information available prior to the issuance of the financial statements indicates that it is probable that an asset has been impaired or a liability has been incurred at the date of the financial statements and
(b) the amount of the loss can be reasonably estimated.

FASB No. 5 further states that if no accrual is made for a loss contingency because one or both of the above conditions are not met, or if

an exposure to loss exists in excess of the amount accrued, *disclosure* of the contingency shall be made when there is at least a reasonable possibility that a loss or an additional loss may have been incurred. Disclosure is not required of a loss contingency involving an unasserted claim unless it is considered probable that a claim will be asserted and there is a reasonable possibility that the outcome will be unfavorable.

Underground Storage Tanks (Vignette 2, High Magnitude of Consequences)

Chris Carr, the Chief Financial Officer of a manufacturing company, has become aware of a situation that may require recording a contingent liability for environmental clean-up costs.

In a recent conversation with the plant controller from one of the company's manufacturing sites, mention was made of the discovery of an old underground tank field, comprised of three 2,000-gallon storage tanks. The tanks had once stored waste chlorinated solvents, but have not been in use for many years. The tanks are currently empty, but no one is sure if any leakage has occurred over the years. This is a significant concern, as the tanks are situated near an aquifer that feeds the water supply of nearby communities. The concern is heightened by the fact that chlorinated solvents are known to be highly toxic and persistent in the environment, and waste chlorinated solvents are classified as "hazardous waste" by the EPA.

At the present time, the environmental regulatory agencies are not aware of the tanks, and the company has not engaged in a formal Preliminary Assessment/Site Investigation. Nonetheless, the plant engineers and cost accountants have worked up rough estimates of the costs associated with several possible scenarios, as shown below:

Scenario	Description	Cost Estimate	Likelihood of Scenario (%)
Best case	Removal of tanks, piping, and pumps; no leakage	\$30,000–\$35,000	15–20
Moderate case	Removal of tanks; evidence of leakage; remediation of adjacent soil required	\$95,000–\$105,000	45–55
Worst case	Removal of tanks; evidence of leakage; significant contamination of ground water; extensive ground-water clean-up required	\$1,000,000+	25–35

The company's threshold for materiality is about $35,000. Total assets are currently $5,000,000 and pre-tax income from continuing operations averages about $700,000 per year.

Chris Carr has spoken to the head of Corporate Counsel about the situation with the storage tanks. The attorney suggested that if the Worst Case Scenario exists, with significant contamination to the water supply, another $1,000,000 liability could arise due to legal fees and litigation. There is no potential recovery from third parties; Carr's company has been the sole owner of the manufacturing site since its inception.

Accounting Guidance

Seeking guidance from Generally Accepted Accounting Principles about the appropriate accounting treatment for this potential liability, Carr finds that the issue falls under the guidance of Financial Accounting Standards Board (FASB) Statement No. 5, *Accounting for Contingencies*, which requires the accrual of a liability if

(a) information available prior to the issuance of the financial statements indicates that it is probable that an asset has been impaired or a liability has been incurred at the date of the financial statements and
(b) the amount of the loss can be reasonably estimated.

FASB No. 5 further states that if no accrual is made for a loss contingency because one or both of the above conditions are not met, or if an exposure to loss exists in excess of the amount accrued, *disclosure* of the contingency shall be made when there is at least a reasonable possibility that a loss or an additional loss may have been incurred. Disclosure is not required of a loss contingency involving an unasserted claim unless it is considered probable that a claim will be asserted and there is a reasonable possibility that the outcome will be unfavorable.

Environmental Liability Accrual and Disclosure Survey

This survey relates to the hypothetical case that you just read concerning underground storage tanks, and the accounting for potential environmental liabilities associated with that situation. Most questions ask what your response would be if *you* faced a

situation in *your* company similar to the one described in the hypothetical case.

Definition of Terms:

- *Accrual of an environmental liability* means the recognition of a liability on the balance sheet and a corresponding charge to income in the current period.
- *Full disclosure* of an environmental liability means disclosing the amount of the liability accrued, if any, and a statement that an additional liability (or a liability) is possible.
- *A material accrual* for the hypothetical company is defined as an amount greater than or equal to $35,000. In answering the survey, you should consider an amount that would be material to *your* company.

If *you* faced a situation in *your* company similar to that faced by Chris Carr, and taking into consideration the pressures and trade-offs that would influence this decision, what dollar amount, if any, would you *accrue*?: ________________

Again, assuming that *you* faced a similar situation in *your* company, please circle the number corresponding to the statement that best describes the *note to the financial statements* you would use:

1. No disclosure in the notes to the financial statements regarding a contingent environmental liability.
2. A note stating that no material adverse effect on the financial position or results of operations of the company is expected from environmental liabilities.
3. A note stating that although a loss due to a contingent environmental liability is probable, the amount cannot be reasonably estimated at this time.
4. A note acknowledging an accrual, without stating the amount.
5. A note acknowledging an accrual, with disclosure of the dollar amount.
6. A note disclosing the dollar amount of the accrual, with a statement that an additional liability is possible.
7. Some other statement. Please specify:______________________________

Please circle your response in the boxes below.							
1 = Extremely unlikely; 2 = Quite unlikely; 3 = Slightly unlikely; 4 = Neutral; 5 = Slightly likely; 6 = Quite likely; 7 = Extremely likely							
	Extremely Unlikely .... Extremely Likely						
If *you* faced a situation in *your* company similar to that faced by Chris Carr, and taking into consideration the pressures and trade-offs that would influence this decision, *how likely would you be to accrue a material dollar amount* ($\geq$ \$35,000) for a contingent environmental liability for the situation described?	1	2	3	4	5	6	7
For the situation described in the hypothetical case, *how likely would you be to make full disclosure* (statement #6 above) in the notes to the financial statements regarding the potential environmental liability?	1	2	3	4	5	6	7

1 = Strongly disagree; 2 = Disagree; 3 = Somewhat disagree; 4 = Neither disagree nor agree; 5 = Somewhat agree; 6 = Agree; 7 = Strongly agree							
Please indicate your disagreement/agreement with the following statements by circling your response.							
For a situation such as the one in the hypothetical case, . . .	Strongly Disagree .... Strongly Agree						
Making a material accrual for a contingent environmental liability is generally desirable	1	2	3	4	5	6	7
Making full disclosure in the notes to the financial statements about the contingent environmental liability is generally desirable	1	2	3	4	5	6	7
Accruing a material contingent liability for environmental costs generally has more favorable outcomes than unfavorable outcomes	1	2	3	4	5	6	7

Full disclosure in the notes to the financial statements about the contingent environmental liability generally has more favorable outcomes than unfavorable outcomes	1	2	3	4	5	6	7
Accruing a material dollar amount for a contingent environmental liability would be responsible financial reporting	1	2	3	4	5	6	7
Full disclosure of a contingent environmental liability represents responsible financial reporting	1	2	3	4	5	6	7
Most people who would influence my decision would think that I should accrue a material contingent environmental liability	1	2	3	4	5	6	7
Most people who would influence my decision would think that I should fully disclose the environmental liability	1	2	3	4	5	6	7
There would be an ethical obligation to accrue a material environmental liability	1	2	3	4	5	6	7
There would be an ethical obligation to fully disclose the environmental liability in the notes to the financial statements	1	2	3	4	5	6	7

1 = Very undesirable; 2 = Quite undesirable; 3 = Slightly undesirable; 4 = Neither desirable nor undesirable; 5 = Slightly desirable; 6 = Quite desirable; 7 = Very desirable							
How desirable or undesirable is each of the following to you? (Please circle your response)	Very Undesirable .... Very Desirable						
Creating a reserve for future utilization	1	2	3	4	5	6	7
Adversely affecting share price/borrowing costs	1	2	3	4	5	6	7
Having your company viewed as acting responsibly in managing environmental issues	1	2	3	4	5	6	7

Having questions raised about the accuracy of estimates in the financial statements	1	2	3	4	5	6	7
Fulfilling the obligation to fully inform users of financial statements	1	2	3	4	5	6	7
Increasing the risk of lawsuits	1	2	3	4	5	6	7
Adversely affecting profits in the current period	1	2	3	4	5	6	7
Showing a conservative approach to financial reporting	1	2	3	4	5	6	7
Increasing regulatory oversight of the company	1	2	3	4	5	6	7
Drawing management attention to environmental issues	1	2	3	4	5	6	7

(Please use the following scale for the next two sets of statements.)
1 = Extremely unlikely; 2 = Quite unlikely; 3 = Slightly unlikely; 4 = Neutral;
5 = Slightly likely; 6 = Quite likely; 7 = Extremely likely

How likely is it that the following things would happen if one accrued a material liability or fully disclosed the environmental liability for the situation described in the case?

How Likely is It that:	… If One Accrued a Material Environmental Liability?							… If One Fully Disclosed the Environmental Liability?						
A reserve would be created for future utilization…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Share price/borrowing costs would be adversely affected…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Company would be viewed as acting responsibly in managing environmental issues…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Questions would be raised about the accuracy of the estimate…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
The obligation to fully inform users of financial statements would be fulfilled…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
The risk of lawsuits would be increase…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Profit would be adversely affected in the current period…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
A conservative approach to financial reporting would be demonstrated…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Regulatory oversight of the firm would be increased…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Management attention would be drawn to this environmental issue…	1	2	3	4	5	6	7	1	2	3	4	5	6	7

If *you* faced a situation in *your* company similar to the one in the case, how likely is it that each of the following people or groups of people would want you to accrue a material liability or fully disclose the environmental liability?

How Likely is It that:	… Want You to *Accrue* a Material Environmental Liability?							… Want You to *Fully Disclose* the Environmental Liability?						
Your company's CEO would…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Outside auditors would…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Internal legal counsel would…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
External legal counsel would…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Engineers/technical experts would…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Board of Directors/Audit Committee would…	1	2	3	4	5	6	7	1	2	3	4	5	6	7

1 = Extremely unlikely; 2 = Quite unlikely; 3 = Slightly unlikely; 4 = Neutral; 5 = Slightly likely; 6 = Quite likely; 7 = Extremely likely														
(Please circle the appropriate number in each column for each statement).														
How likely is it that you would want to comply with the wishes of:	… concerning the *accrual* of a material environmental liability?							… concerning the *full disclosure* of the environmental liability?						
Your company's CEO	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Outside auditors	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Internal legal counsel	1	2	3	4	5	6	7	1	2	3	4	5	6	7
External legal counsel	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Engineers/technical experts	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Board of Directors/Audit Committee	1	2	3	4	5	6	7	1	2	3	4	5	6	7

1 = Strongly disagree; 2 = Disagree; 3 = Somewhat disagree; 4 = Neither disagree nor agree; 5 = Somewhat agree; 6 = Agree; 7 = Strongly agree														
(Please indicate your disagreement/agreement with the following statements by circling your response in each column).														
If I faced a situation in my company similar to the one in the case,	…to *accrue* a material environmental liability.							…to *fully disclose* an environmental liability.						
I would have control over the decision…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
It would be very easy for me…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
The authority given my position is sufficient…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
I feel confident that my skills, abilities, and knowledge qualify me to make the decision…	1	2	3	4	5	6	7	1	2	3	4	5	6	7
As a financial executive, I would have a moral obligation….	1	2	3	4	5	6	7	1	2	3	4	5	6	7
It would go against my principles not…	1	2	3	4	5	6	7	1	2	3	4	5	6	7

(For the next two questions, please circle the number to indicate your response choice).

In thinking about the situation described in the case, how would you rate the environmental risk to human health and safety?

Low									High
1	2	3	4	5	6	7	8	9	10

In thinking about the situation described in the case, how would you rate the financial impact on the hypothetical company?

Low									High
1	2	3	4	5	6	7	8	9	10

What was the lowest cost estimate for the Best Case Scenario? ______________ ($ amount)

What was the highest cost estimate for the Worst Case Scenario, including the additional legal fees and litigation? ___________ ($ amount)

The remaining questions are not related to the hypothetical case, but are questions concerning your background and present company. These questions are for research purposes only – no effort will be made to identify you or your company. If you are presently retired or unemployed, please answer the following questions as they pertain to your most recent employer and job position.

INSTRUCTIONS: Please answer the following in terms of how it actually is in your company, not how you would prefer it to be. Please be as candid as possible; remember, all your responses will remain strictly confidential. No one at your company will see your responses.

1 = Completely false; 2 = Mostly false; 3 = Somewhat false; 4 = Somewhat true; 5 = Mostly true; 6 = Completely true						
To what extent are the following statements true about your company? False………True	Completely False ………… ….Completely True					
People in my company have a strong sense of responsibility to the outside community	1	2	3	4	5	6

In my company, each person is expected, above all, to work efficiently	1	2	3	4	5	6
In my company, people protect their own interest above other considerations	1	2	3	4	5	6
People in my company are actively concerned about the customer's, and the public's, interest	1	2	3	4	5	6
The major responsibility for people in my company is to consider profitability first	1	2	3	4	5	6
In my company, people are mostly out for themselves	1	2	3	4	5	6
The effect of decisions on the customer and the public are a primary concern in my company	1	2	3	4	5	6
Efficient solutions to problems are always sought here	1	2	3	4	5	6
In my company, people look out for each other's good	1	2	3	4	5	6
In my company, it is expected that one will always do what is right for the customer and public	1	2	3	4	5	6
The most efficient way is always the right way, in my company	1	2	3	4	5	6

The following questions ask about your perception of your company's ethical climate.

Please place an "X" above your response choice:

Do you feel that the ethical principles of your company are consistent with your personal ethical principles?

Inconsistent ________: _____: _______: ______: ______: ____: _________ Consistent
Extremely Quite Slightly Neither Slightly Quite Extremely

To what extent does the ethical climate of your company make it difficult/easy for you to do what you think is right?

Difficult ________: _____: ______: ______: _______: _____: _________ Easy
Extremely Quite Slightly Neither Slightly Quite Extremely

To what extent are you generally satisfied with the overall ethical climate in your company?

Dissatisfied ________: _____: _______: ______: ______: ____: ________ Satisfied
Extremely Quite Slightly Neither Slightly Quite Extremely

Please be as candid as possible in responding to the following items:						
1 = Strongly disagree; 2 = Disagree; 3 = Somewhat disagree; 4 = Somewhat agree; 5 = Agree; 6 = Strongly agree						
	Strongly Disagree .... Strongly Agree					
I am sometimes irritated by people who ask favors of me	1	2	3	4	5	6
There have been occasions when I took advantage of someone	1	2	3	4	5	6
I sometimes try to get even rather than forgive and forget	1	2	3	4	5	6
At times I have really insisted on having things my own way	1	2	3	4	5	6

The following information is for statistical purposes only. Please indicate by circling the appropriate number. Note: If you are presently retired or unemployed, please answer the following questions as they pertain to your most recent employer and job position.

Are you presently employed:

1. Yes
2. No

Your job title:

1. Chairman of the Board
2. Owner
3. President/CEO
4. Chief Financial Officer
5. Vice President
6. Treasurer
7. Controller
8. Other (Please specify) ______________________________

Number of years in this position: ____________

Number of years employed by present company: __________

Professional certifications currently held, please list:

Number of times that you have been involved in decisions regarding the accrual or disclosure of environmental liabilities.

1. Never
2. One or two times in my career
3. One or two times per year
4. Three to five times per year
5. More than five times per year

Your age in years:

1. Less than 25
2. 26-35
3. 36-45
4. 46-55
5. 56-65
6. Greater than 65

Your gender:

1. Female
2. Male

Ownership structure of your company:

1. Publicly traded
2. Privately held

3. Government
4. Not-for-profit

Approximate size of your company:

1. Less than 100 employees
2. Between 100 and 1000 employees
3. Between 1001 and 2500 employees
4. More than 2500 employees

Please circle the number next to the industry category that best describes your company's major business: (*Summary level SIC codes are in parentheses.*)

Manufacturing:

1. Food and kindred products (*2000*)
2. Textiles (*2200*, *2300*)
3. Lumber and Wood Products, Paper, Printing (*2400*, *2600*, *2700*)
4. Chemicals and Allied Products (*2800*)
5. Petroleum (Refining) and Coal Products (*2900*)
6. Primary Metal Industries (*3300*)
7. Fabricated Metal Products (*3400*)
8. Machinery, Equipment, and Components (*3500, 3600*)
9. Transportation Equipment (Autos) (*3700*)
10. Instruments and Related Products (*3800*)
11. All other manufacturing (*2100, 2500, 3000, 3100, 3200, 3900*)

Mining

12. Oil and Gas Extraction (*1300*)
13. All other mining (*1000, 1100, 1200, 1400*)

Transportation

14. Electric, Gas and Sanitary Services (Utilities) (*4900*)
15. All other transportation (*4000 – 4800*)
16. *Construction* (*1500 – 1700*)
17. *Agriculture and Forestry* (*0100 – 0800*)
18. *Wholesale Trade* (*5000 – 5100*)
19. *Retail Trade* (*5200 – 5900*)
20. *Finance and Real Estate* (*6000 – 6700*)
21. *Other* (*7000 – 9900*)

The following items relate to your perceptions of the present regulatory and economic environment in which your company operates.

1 = Strongly disagree; 2 = Disagree; 3 = Somewhat disagree; 4 = Somewhat agree; 5 = Agree; 6 = Strongly agree						
Please indicate your disagreement/agreement with the following statements by circling your response.						
	Strongly Disagree .... Strongly Agree					
The environmental regulatory climate at the federal level is presently pro-business	1	2	3	4	5	6
The current federal environmental regulations are relaxed	1	2	3	4	5	6
The SEC oversight concerning the reporting of environmental liabilities is presently relaxed. (*Please skip this question if your company is not publicly traded*)	1	2	3	4	5	6
External auditor oversight concerning the reporting of environmental liabilities is presently relaxed	1	2	3	4	5	6
At the present time, the industry in which my company operates is more profitable than the general economy	1	2	3	4	5	6
My company is currently more profitable than other companies in our industry	1	2	3	4	5	6
The industry in which my company competes is competitive	1	2	3	4	5	6

If there are any comments you would like to add, please feel free to do so in the space below:

Thank you very much for your time and participation in this survey. Your opinions are extremely valuable in furthering the understanding of the accounting for environmental liabilities.

If you are interested in receiving a copy of the survey results, please send an email message to xxxxxxxxx.