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An Empirical Investigation of Corporate Voluntary Disclosure of Management's Responsibilities for Financial Reporting

INTRODUCTION

The Sarbanes-Oxley Act (S-O Act) of 2002 includes provisions that require the principal executive and financial officer of each publicly-owned company to certify under oath to the veracity of information contained in SEC filings and opine on the effectiveness of the internal control system. Prior to this act, and for almost 30 years, there had been several initiatives to mandate management's disclosure of its responsibilities in financial statements, however, formal reporting remained voluntary. Yet, senior management at many publicly traded companies has voluntarily published a "Report of Management's Responsibility" (RMR)[1] in annual shareholder reports and/or financial statements filed with the SEC. The RMR generally includes assertions concerning management's responsibilities for the preparation of the financial statements, the reasonableness of estimates included therein and for the maintenance of an effective system of internal controls. The sudden demand for legal proclamations by senior management was preceded by a protracted and contentious debate regarding the benefits and ramifications of disclosures concerning management's responsibilities.

Prior research on RMRs focused on the usefulness of the disclosures in such reports (e.g., Hermanson 2000; O'Reilly-Allen and McMullen 2002). This study extends prior research by examining the characteristics of firms that voluntarily issued RMRs prior to the mandates under the S-O Act. Exploring the characteristics of firms' voluntary disclosure on management responsibilities for financial reporting sheds light on the following key issues: (1) understanding the environment under which the new legislation would better achieve its objectives; (2) probing

[1] Other titles used to describe these disclosures include "Report of Management," "Management Report on Financial Statements," and "Management's Responsibility for Financial Reporting." In this study, the abbreviation "RMR" is used.

into the concerns of management that must comply with the certification provisions under the new legislation, and (3) highlighting implications for the external auditor in planning the audit and assessing audit risk, especially after management certifications and internal control reports became an integral component of financial reporting.

We develop hypotheses from existing literature regarding the factors that have influenced senior management's decision to voluntarily publish RMRs prior to the S-O Act. We hypothesize that senior management of large corporations are more likely to issue RMRs for two reasons: (1) confidence in the effectiveness of the internal control system. Larger firms have the resources to develop and implement effective internal control systems that provide senior management with assurances as to the validity of the internal operating processes and accuracy of financial records; and (2) mitigating political exposure. Larger firms are subject to higher political pressures regarding their responsibilities to external parties. Therefore, the issuance of a RMR by senior management is viewed as a bonding activity to gain external parties' trust. We also hypothesize that senior management of profitable firms are more likely to issue RMRs to signal successful stewardship.

Contrary to the effects of the firm's size and profitability, we argue that senior management of firms in high risk and volatile industries are less likely to issue RMRs. Senior executives at firms subject to high business risk are averse to voluntary disclosure because of increased uncertainties. We also hypothesize that debt financing, the presence of monitoring by institutional investors and audit committees are positively associated with management's decision to issue a RMR. This research employs logistic regressions on a random sample of 500

firms, stratified by year, from all firms listed in the AICPA's *Accounting Trends and Techniques* (*ATT*) during the period 1996 to 2000.[2]

We find significant association between senior management's decision to issue a RMR and firm size and profitability. These findings are consistent with management's desire to maintain credibility (and preserve its reputation) with third parties and assuage political cost sensitivities. Senior management at more profitable firms were also more likely to signal or promote their effective stewardship and leadership over the firm by publishing a RMR. The results also indicate that senior management at firms operating in volatile or uncertain environments were less forthcoming with RMRs, demonstrating an aversion to additional voluntary disclosure in risky circumstances. The findings also indicate limited influence on senior management's decisions by those with monitoring responsibilities such as institutional investors, audit committees, and independent auditors.

The remainder of this study is organized as follows. Section II discusses the background of RMRs and examines extant literature. Section III develops the hypotheses. Section IV presents the research design, and Section V presents the results of the study. Lastly, Section VI discusses the implications of the findings and offers suggestions for future research.

BACKGROUND AND PRIOR RESEARCH

Prior Initiatives

Information relevance and other issues concerning voluntary and mandatory RMRs were vigorously debated for over 25 years. The *Foreign Corrupt Practices Act of 1977* (FCPA) was enacted with provisions that require all public companies to maintain a satisfactory system of internal controls. Contemporaneously, the Commission on Auditors' Responsibilities (Cohen

[2] The use of the AICPA's *Accounting Trends and Techniques* population (*ATT*) was necessitated for two reasons: (1) *ATT* provides the classification of firms according to their reporting of RMRs, a vital information component to conduct this research effectively, and (2) the population of the firms in this source is very diversified over broad industries and includes firms of all sizes.

Commission 1978) recommended formal assertions as to management's responsibilities for the financial statements and internal controls. In 1979, the SEC followed with a proposal that management attest to the effectiveness of the company's internal control environment, and that independent auditors attest to management assertions. The SEC acquiesced after igniting criticism from the private sector concerning the perceived costs of implementation, questions as to the relevance of these assertions, and fears that issuance implied a certification of compliance with the FCPA.[3]

The National Commission on Fraudulent Financial Reporting (The Treadway Commission 1987: 44) recommended similar public assertions by senior management, which was followed by another proposal by the SEC in 1988 (later withdrawn). This SEC initiative would have required senior management to make annual assertions concerning its responsibility for the financial statements and system of internal controls, including an assessment of the effectiveness of the system and status of recommendations by outside auditors. In its landmark report *Internal Control – Integrated Framework,* the Committee of Sponsoring Organizations (COSO 1992) provided a common definition of internal control, standards against which firms could identify and improve their control systems, and guidance to firms that were currently publishing RMRs. Other private-sector organizations (e.g., Public Oversight Board) had also urged similar disclosures.[4]

The AICPA's *ATT* reveals that the incidence of RMRs increased from 3 percent to 43 percent of the population of 600 firms between 1977 and 1980, rising slightly to 47 percent in

[3] The FCPA does not require management to report on the effectiveness of the internal control system nor attest to compliance with its requirements. Accordingly, the voluntary issuance of a RMR should not be interpreted as an attestation of compliance with the FCPA.

[4] In 1991, Congress passed the Federal Deposit Insurance Corporation Improvement Act (FDICIA). FDICIA requires senior management of qualifying depository institutions to annually submit a signed report to the FDIC that acknowledges responsibility for the financial statements, internal controls, and compliance with specific regulations. An assessment of the firm's control system and compliance efforts is also mandatory (Braiotta 1999: 365).

1985, ultimately reaching a plateau of approximately 55 percent to 60 percent during most of the 1990s. The early rapid increase in the number of companies publishing a RMR was likely the result of the controversy triggered by the myriad proposals discussed, particularly the FCPA of 1977 and subsequent SEC initiatives.

Mandatory Certifications in the Post-Enron Era

The spate of scandals at Enron Corporation., Arthur Andersen, WorldCom Inc., and other prominent companies led to a number of legislative initiatives to restore investor confidence. Sweeping legislation under the S-O Act and subsequent SEC regulations require the CEO and CFO to provide individual certifications (under oath) of financial information contained in SEC filings. One provision under the Act (Section 906) requires a certification that the financial information contained in the SEC filing fully complies with Exchange Act requirements and is fairly presented in all material respects. A second provision (Section 302) requires assertions as to the accuracy and completeness of quarterly and annual financial statements, acknowledges management's responsibility for the system of "disclosure controls and procedures" (as defined therein), and requires disclosure of the effectiveness of the system and significant changes during the reporting period. Lastly, management will publish an annual report that acknowledges its responsibility for the system of controls over financial reporting and that contains an assessment of its effectiveness (Section 404). Management's assessment will be subject to an opinion by the external auditor (U.S. Congress 2002; SEC 2002).

Literature

Extant literature on RMRs has focused primarily on two dimensions: (1) examining the substance and variety of these voluntary disclosures, and (2) the usefulness of the disclosure to users of financial statements. For instance, Willis and Lightle (2000) and Verschoor (2001,1997) analyzed the different types of assertions contained in the voluntarily issued RMR. Hermanson

(2000) analyzed the demand for RMRs by surveying disparate user groups and found that RMRs may serve to motivate both management and the audit committee to focus their attention on enhancing the system of internal controls and the oversight process. Wallace and White (1996) found that senior management at firms with internal auditing departments that focused primarily on aspects of financial controls (versus operational controls) and those at the larger firms in the study were more likely to publish RMRs**.** McMullen et al. (1996b) found that although smaller firms had a higher incidence of financial reporting problems than larger firms, the incidence was lower when senior management at such firms published a RMR.

DEVELOPMENT OF HYPOTHESES

Company Size

Prior research (e.g., Watts and Zimmerman 1986, 235) asserts that larger and more prominent firms face political costs due to greater public or private scrutiny and risks from potential regulatory intervention. Consequently, senior management at larger firms may engage in selective voluntary disclosure to reduce such exposures (Foster 1986, 41) and to protect their self-interests. Accounting disclosure regulators (FASB, SEC) are also sensitive to the burdens and associated costs of increased disclosure on smaller firms (Lang and Lundholm 1993). Accordingly, the level of management's voluntary disclosures and overall disclosure strategy is positively related to firm size (Foster 1986: 44).

Given the influence of company size on management's disclosure strategy, the critical element that provides senior management with the foundation to make credible disclosures such as a RMR is the strength of the firm's internal control structure. Reliable internal control systems provide senior management with the necessary assurances regarding the effectiveness of operating processes and the integrity of financial records. U.S. Auditing Standards (AICPA 1999, AU Section 319) acknowledge that larger entities are more likely than smaller firms to

possess elements of effective internal controls such as a written code of conduct, written policy manuals, and an appropriate segregation of duties. Consequently, since RMRs generally reveal important information concerning the components and effectiveness of the internal control structure, senior management at larger firms are more likely to credibly make such assertions. This discussion leads to the following hypothesis:

> **H1:** Larger firms are more likely to adopt and implement effective internal control systems that provide senior management with the necessary assurances for extended voluntary disclosure. This implies a positive association between company size and senior management's decision to voluntarily issue a RMR.

Profitability

Though research exploring the relationship between firm performance and disclosure has displayed mixed results and may be "situation specific," management may "tend to be more forthcoming when the firm is performing well than when it is performing poorly" (Lang and Lundholm 1993). Proponents of RMRs contend that such disclosures reflect favorably on management's successful stewardship over the firm and are a positive signal to investors and other parties that maintain a contractual relationship with the firm (Kinney 2000; Willis and Lightle 2000). Accordingly, senior management at companies with higher profitability are likely to be motivated to report their organizational success and enhance their reputation as effective stewards by voluntarily issuing a RMR.

> **H2:** There is a positive relationship between the profitability of a company and senior management's decision to voluntarily issue a RMR.

Debt Financing

Management possesses better access to knowledge concerning the financial position and performance of the firm than outsiders do. Therefore, firms that plan to tap the capital markets have an incentive to provide voluntary disclosures "to reduce the information asymmetry problem, thereby reducing the firm's cost of external financing" (Healy and Palepu 2001).

Sengupta (1998) adds that higher disclosure quality may reduce a lender's perception of default risk, thereby lowering the yield on debt. The quality or "informativeness" of disclosures can also lead to broader coverage by analysts and a lower overall cost of borrowing (Lang and Lundholm 1996). Lastly, firms that periodically enter the capital markets for financing are subject to scrutiny by rating agencies and other interested parties.

Senior management therefore has incentives to voluntarily provide a RMR to establish or maintain its credibility with financial intermediaries and simultaneously to signal a positive reputation to capital providers. Accordingly, senior management of firms with higher dependency on borrowed capital are more likely to issue a RMR to reduce information asymmetry for lenders and possibly lower the cost of borrowed capital.[5] This argument leads to the following hypothesis:

H3: There is a positive relationship between the magnitude of a company's leverage and senior management's decision to voluntarily issue a RMR.

Business Risk and Uncertainties

Stakeholders of corporations develop expectations about their rewards from the firm. In competitive markets, business risk and operating uncertainties play a crucial role in building such expectations. Traditional research measures business risk and operating uncertainties by beta.[6] Firms possessing higher betas typically experience greater volatility in returns (as market conditions change) versus firms with smaller betas. Foster (1986, 342-345) observes the positive correlation between beta, financial and operating leverage, and "business risk determinants" such as product demand, contribution margin, and other variables. Assuming the risk-averse nature of individuals, senior management of firms with lower betas are likely to be more confident in

[5] Higher use of debt in a firm's capital structure may also increase the "tightness" of a firm's loan covenants and influence management's disclosure strategy. This study makes no assumptions concerning the interaction between a firm's closeness to its debt covenants and management's decision to issue a RMR.

[6] Though measures such as earnings volatility are alternate proxies for risk, we employ the traditional measure of

publishing a RMR than management whose firms are subject to higher volatility or greater uncertainty. Using beta as a proxy for risk leads to the following hypothesis:

H4: There is a negative relationship between the riskiness of a company (measured in terms of beta) and senior management's decision to voluntarily issue a RMR.

Concentration of Equity Ownership

Jensen and Meckling (1976) suggest that institutional investors and those "who possess comparative advantages in these activities" are likely to be important monitors of management's behavior. As investors, institutional owners have a fiduciary responsibility over the funds provided by individuals and often undertake an active role in monitoring management's performance. Accordingly, a higher concentration of institutional ownership in a particular firm is likely to motivate management to provide additional voluntary disclosures in order to maintain investor confidence (El-Gazzar 1998). Bushee and Noe (2000) also comment that institutional owners are "sensitive" to disclosure if such information serves to reduce the volatility of stock prices, enhances profitable trading opportunities, and offers additional insight into corporate governance practices.

Jensen and Meckling (1976) also assert that higher firm ownership by management narrows the divergence between its interests and those of outside owners. This closer alignment may relax senior management's need to signal the fulfillment of its stewardship role to outside owners. Accordingly, senior management at firms with higher levels of equity ownership by management (e.g., officers, directors, and other defined individuals) are less likely to offer voluntary information above that which is mandatory. The following hypotheses regarding the influences of institutional and managerial ownership on RMR issuance are proposed:

H5: There is a positive relationship between the magnitude of institutional ownership of a company and senior management's decision to voluntarily issue a RMR.

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beta, which encompasses financial, operating, and business uncertainties.

H6: There is a negative relationship between the magnitude of managerial ownership of a company and senior management's decision to voluntarily issue a RMR.

Corporate Governance[7]

Fama and Jensen (1983) posit that outside or independent board members are likely to be more effective in mitigating conflicts between managers and shareholders due to the "separation of top-level decision management and [decision] control," and also face reputational risks as prominent business leaders. Empirical studies have disclosed that companies with financial reporting problems were less likely to have an audit committee comprised solely of outside directors, and few met more than three times per year (McMullen and Raghunandan 1996a). Similarly, Beasley et al. (1999: 16-17) found that only 38 percent of firms experiencing fraudulent financial reporting during 1987-1997 had audit committees comprised entirely of outside directors and that most averaged approximately two meetings per year. Management may also be less inclined to employ aggressive accounting policies in firms where the audit committee meets more frequently each year (three or more times), and where the committee is comprised solely of non-employee directors (Parker 1999).

Given this discussion, we posit that independent[8] and active[9] audit committees are likely to present an acute influence over senior management's decision to publish a RMR. This leads to the following hypotheses:

[7] Corporate governance includes all mechanisms and processes adopted by the firm to assure that it is managed to maximize the interests of the owners. These mechanisms include the audit committee, nominating and compensation committees, and the dual role of the CEO/chairperson. In this study, we use the audit committee structure and meetings to measure the influence of corporate governance.

[8] In this study, characteristics that delineate "independent" versus "inside" directors follow the criteria used by Beasley et al. (1999). In that study (p.16), an independent director was defined as one with "no disclosed relationship (other than stock ownership) between the director and the company or its officers." Conversely (p.16), inside or affiliated directors include current or former officers and employees, consultants, those related to management, and those associated with major suppliers, customers or creditors of the firm.

[9] Current corporate governance proposals, particularly in the post-Enron era, recommend frequent audit committee meetings to improve effectiveness. This study employs a threshold of three or more meetings, which is consistent with criterion used in related studies during this timeframe.

H7a: There is a positive relationship between the existence of an audit committee comprised solely of independent directors and senior management's decision to voluntarily issue a RMR.

H7b: There is a positive relationship between an audit committee that meets more frequently (three or more times per year) and senior management's decision to voluntarily issue a RMR.

RESEARCH DESIGN

Sample

We selected a random sample of 500 firms, stratified by year, from the population of companies in the AICPA's *ATT* during the period of 1996 to 2000. We utilized the *ATT* population in this study for several reasons. First, *ATT* includes a broad representation of industrial and service firms of diverse size from over 35 industries. Second, it also excludes banks, insurance firms, utilities, and other sectors that possess unique financial characteristics or are subject to particular regulatory influences or incentives. Third, the *ATT* provides a supplemental classification of firms regarding their reporting on RMRs, which is fundamental to conduct the current research. The base sample was then screened against the following factors: (1) data availability on the CRSP tape; (2) data availability on audit committees' structure and meetings, and (3) confounding events including mergers and acquisitions. Table 1 presents the sample selection and elimination process.

(Insert Table 1 here)

Panel A of Table 1 shows that the final pooled sample consists of 464 firm-years. As shown in Panel B, the classification of sample firms resulted in 289 issuers and 175 non-issuers, respectively. The characteristics of the sample firms confirm, to a large extent, prior research using the *ATT* population (El Gazzar and Jaggi 1997) and also satisfy the regression representation requirements (Hair et al. 1998: 258). Though Sengupta (1998) cautions that this pooling methodology may introduce a degree of autocorrelation in certain variables and possibly

overstate the regression results, additional refined tests that exclude repetitive firms produced similar conclusions.

Measuring Variables

Dependent Variable

The dependent variable is the company's classification as RMR issuer or non-issuer. We use a dichotomous variable to represent senior management's disclosure decision. RMR takes the value of one for firms that voluntarily reported on their responsibilities, and zero otherwise. Data for identifying each firm's position on RMRs was provided by the AICPA's Professional Publications Division.[10]

Independent Variables

The independent variables employed in this study and the data source for each are identified in Table 2.

(Insert Table 2 here)

Model

We employ the logistic regression[11] model below to examine the impact of each explanatory variable on senior management's decision to voluntarily issue a RMR:

$$\begin{aligned} RMR_i = {} & \beta_0 + \beta_1 \text{Log_ASSET}_i + \beta_2 \text{ROA}_i + \beta_3 \text{TLE}_i \\ & + \beta_4 \text{BETA}_i + \beta_5 \text{INSTITUTE\%}_i + \beta_6 \text{MGT_OWN\%}_i \\ & + \beta_7 \text{AUDIT_INDEP}_i + \beta_8 \text{AUDIT_MEET}_i + \varepsilon_i \end{aligned} \quad (1)$$

EMPIRICAL RESULTS

Descriptive Statistics

Table 3 presents the descriptive statistics of the independent variables for the total sample as well as by groups. The size variable (Log_ASSET) has a mean of 3.31 for the total sample. When partitioned by RMR status, Log_ASSET shows that issuing firms are larger in size. The

[10] This information was tested for completeness and accuracy by examining the annual reports and 10-K filings of the sample firms.

[11] Logistic regression is the most appropriate statistical technique for this study due to the binary nature of the dependent variable. For each observation, senior management either issues a RMR or not. Essentially, logistic regression estimates the probability of this discrete decision given an array of explanatory variables.

means for reporting and non-reporting samples are 3.53 and 2.94, respectively. This simple statistic confirms the size hypothesis that larger firms are more likely to report on their responsibilities in financial statements than smaller. Similarly, the profitability variable (ROA: return on assets) shows that reporting firms have higher profits per dollar of assets than those of non-reporting firms. The means of the ROA variable are .072 and .054, respectively.

The debt financing measure (TLE) is higher for reporting firms, confirming the propensity to provide creditors with voluntary disclosure. The mean of TLE is 2.18 for reporting firms versus 1.54 for non-reporting firms. The presence of audit committees consisting entirely of outside members (AUDIT_INDEP) is not materially different, where the means are .64 versus .61 for reporting and non-reporting samples, respectively. However, audit committee effectiveness as measured by the number of meetings (AUDIT_MEET) indicates that audit committees of the reporting sample are more active than those of the non-reporting sample. The percentage of firms having three or more meetings is .76 for the reporting sample versus .57 for non-reporting sample.

The statistics on ownership structure support the hypotheses that reporting firms have a higher percentage of equity owned by institutional investors but a lower percentage by management. This confirms the monitoring effects of institutions on management's level of disclosure through RMRs.

(Insert Table 3 here)

Non-Parametric Tests and Correlations

Table 4 presents the results of the Wilcoxon Rank-Sum Test of the differences between issuers and non-issuers in the pooled sample and indicates clear demarcations between the two groups. The size variable (Log_ASSET) is statistically and significantly larger for the reporting sample, confirming the positive association between RMR reporting and firm size. The

profitability measure (ROA) and the debt financing variable (TLE) are also statistically higher for reporting firms than non-reporting firms.

Ownership of sample firms' stocks by institutions and management is also statistically different between the two samples. Reporting firms have a higher percentage of their equity owned by institutional investors but a lower percentage by management. This result is consistent with the hypothesis that institutional investors exercise more monitoring efforts on their investees, causing management to expand disclosure for stockholders. Interestingly, the mean difference for BETA is statistically significant at $p<0.01$. This suggests that issuing firms have, on average, higher risk/volatility than non-issuers do. However, the direction of the variable is inconsistent with expectations. These preliminary results will be tested more specifically in the logit model.

The correlation matrix in Table 5 displays moderate to low correlations between the explanatory variables. We conclude that multicollinearity is not a problem based upon calculations (not displayed here) of the Variance Inflation Factor for each variable.

(Insert Table 4 and Table 5 here)

Results of the Logit Models

Table 6 presents the coefficient estimates of regressing management's decision to issue RMRs against the hypothesized variables. Model 1 includes all of the pooled firm-year observations, while Model 2 eliminates those observations that were repeated in more than one year during the test period 1996 to 2000. This latter model (Model 2) intends to examine whether repeated observations in Model 1 have a clustering effect on the parameter estimates.

Consistent with the size hypothesis, the coefficient for Log_ASSET is positive and significant at $p<0.01$. Accordingly, senior management at larger firms is more likely to issue a RMR than those at smaller firms. This is consistent with the belief that management of larger

firms may use voluntary disclosures both to temper political costs, and to testify to the presence of an effective internal control structure that provides assurances as to internal operating processes and the accuracy of financial records. The positive and significant coefficient (p<0.01) for ROA supports the profitability hypothesis. That is, given profitable operating results, senior management tends to be more forthcoming with voluntary disclosures such as a RMR to positively signal its stewardship and organizational success.

(Insert Table 6 here)

Consistent with the business risk and uncertainties hypothesis, the coefficient of BETA has the expected negative sign and is statistically significant (approximately p<0.01). This result indicates that senior management at firms with higher operating and financial risks tend to minimize their disclosure contingencies by electing not to issue a RMR. The coefficient of TLE (debt financing) has the expected sign but lacks statistical significance. The negative coefficient for INSTITUTE% is opposite of expectations, but is statistically insignificant. Moreover, though the coefficient for MGT_OWN% is as expected (negative), it also lacks statistical significance. Accordingly, the model does not support the ownership structure hypotheses.

The results on audit committee variables are mixed and insignificant in supporting the corporate governance hypotheses. The coefficient of the audit committee structure (AUDIT_INDEP) is positive in Model 1 and negative in Model 2, but both are statistically insignificant. This implies that both samples have similar percentages of audit committees comprised totally of outside directors. The coefficient of the number of audit committee meetings (as a measure of the committee effectiveness) is positive but also insignificant. It should be noted that extensive public disclosures of the responsibilities of audit committees were not required during four of the five years during the sample period. The findings may suggest

reluctance by audit committees to urge senior management to provide voluntary disclosures when audit committee members themselves had limited disclosure requirements.

Lev (1992) argues that disclosure strategy, particularly when disclosures are voluntary, requires an evaluation of the costs versus the perceived benefits of such information. This includes a review of the direct costs (e.g., gathering and preparation of information) and a variety of indirect costs, of which "the potential cost of litigation probably concerns U.S. executives most" (Lev 1992). Anecdotal evidence suggests that senior management at many public companies, already subject to significant scrutiny for the content of their SEC filings, would prefer not to include additional, voluntary disclosures unless required to do so by law.

The models have equivalent predictive accuracies of 70 percent, and the Chi-Square statistic of each is significant at $p<0.01$. This implies that the hypothesized variables explain a significant part of management's decision to issue a RMR. In an attempt to examine the validity of the pooled models, the regressions were also run by year. The results (not reported here) provide similar conclusions.

Additional Analysis: Auditing Firm Influences

Prior research (e.g., Beasley and Salterio 2001) suggests that the "Big 5" auditing firms (now "Big 4" with the demise of Arthur Andersen) are perceived to provide services of "higher quality" than smaller firms, and "are argued to be more effective monitors in the financial reporting process than lower-quality monitors." It is reasonable to assume that Big 5 firms would exert influence over management to issue a RMR. As a supplemental analysis, the auditing firm for each sample firm was extracted from *COMPUSTAT* (data item 149). The proclivity of publicly-traded companies, both large and small, to retain Big 5 firms during the period was evident where 439, or 95 percent of the firm-years, were audited by Big 5 firms.

Therefore, no further analysis was necessary to examine external auditor influences on the RMR decision by senior management.

DISCUSSION AND CONCLUSIONS

Prior to the stringent certification requirements mandated under the S-O Act of 2002, we find that a diverse set of factors influenced senior management to voluntarily disclose its responsibilities during the five-year period 1996 to 2000. The findings have implications for current professional practice and are an important addition to existing literature in the area of voluntary disclosure and disclosure strategy. Senior management at larger companies were more likely to issue a RMR, suggesting a desire to reduce political sensitivity via voluntary disclosures while also signaling the successful fulfillment of its responsibilities. The more-defined internal control systems at larger firms provide the foundation for RMR assertions. Senior management at smaller firms, where less extensive or defined control processes are likely to be present, were less inclined to publish assertions concerning such matters.

We also find that senior management of more profitable firms was more likely to issue a RMR, suggesting the desire to publicly promote its organizational success and effective stewardship over the firm. In a self-motivated manner, issuing a RMR may also be construed as a signal to the labor market that "prices" the services of managers and their reputations. The business risk variable was negatively related to RMR issuance. This implies that management may be more forthcoming with RMRs in environments characterized by lower risk and uncertainty. However, other determinants of management's behavior, including associated monitoring mechanisms such as those provided by institutional owners, active and independent audit committees, and external auditors displayed no significant influence on senior management's decisions in this area.

This study is subject to certain limitations. First, the sample was not drawn from the full population of U.S. public companies, but from an established group of firms tracked in *ATT*. Though this reference is often used by researchers and is deemed appropriate for this study, only a random sample from the entire population of all U.S. public companies would permit a conclusive extrapolation of the findings. Second, banks, insurance companies, utilities, airlines, and firms from a number of other disparate industries were appropriately excluded from this study. Future research should include representation of firms from such sectors and tailor additional variables that might be appropriate in the circumstances.

This study also provides avenues for further research. The findings suggest that other statistically strong factors may have deterred senior management from providing such disclosures in the past. We believe that further research into this area should incorporate new variables that proxy for litigation exposure to firm-related risks or those that present exposure to personal liability. A comprehensive survey of senior management of issuing and non-issuing firms may also unlock new information and reveal the attributes that had deterred voluntary disclosure in the past. Such a survey may reveal senior management's attitudes toward the new mandates under the S-O Act and mechanisms employed to comply with the new certification provisions. Lastly, recent reforms have highlighted the important role of corporate governance in promoting corporate responsibility. Issues such as CEO/Chairperson "duality," the independence of board members, board tenure, and other governance issues could also be integrated into this model to understand the broader intricacies of "best practice" that are now under debate.

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TABLE 1
Summary of Sample Selection and Classification

Panel A: Sample Reconciliation	Pooled Sample: Firm-Years
Base sample (1996 – 2000)	500
Sample Eliminations:	
1. Missing CRSP data	14
2. Missing audit committee information and other data due to mergers and acquisitions	14
3. Extreme observations	8
Subtotal	36
Final sample used in tests	464
Panel B: Classification - - Issuing versus Non-Issuing Firms	
Issuing firm-years	289
Non-issuing firm-years	175
Total firm-years	464
Percent of issuers to total	62 %

TABLE 2
Independent Variables

Variable	Description
Log_ASSET	The log of total assets (in millions) at year-end.
ROA	A three-year average of the Return on Assets calculated as follows: $\text{ROA} = \sum_{t=-2}^{t=0} \frac{\text{Net Income (continuing operations) + Interest Expense (after-tax)}}{\text{Total Assets}}$
TLE	Total liabilities/stockholders' equity at year-end.
BETA	The variability of the firm's stock returns against the S&P 500 for the one-year period (approximately 250 daily observations) prior to year end.
INSTITUTE%	The percentage of the firm's shares owned by institutional owners at year-end.
MGT_OWN%	The percentage of the firm's shares owned by management such as officers, directors, and other defined individuals at year-end.
AUDIT_INDEP	A dummy variable where one represents an audit committee comprised solely of independent members with no disclosed financial relationship (other than equity ownership) or employment with the firm, and zero if not.
AUDIT_MEET	A dummy variable where one represents an audit committee that met at least three or more times during the year, and zero if fewer meetings occurred. We use audit committee activity as a proxy for effectiveness.

Source: Data for Log_ASSET, ROA and TLE were extracted from the *COMPUSTAT* database. BETA was calculated using data from the *CRSP* tape. Ownership percentages for INSTITUTE% and MGT_OWN% were retrieved from *Compact Disclosure.* Data for AUDIT_INDEP and AUDIT_MEET were culled from annual proxy statements.

TABLE 3
Descriptive Statistics of the Independent Variables
Pooled Sample of 464 Firm-Years

Variable	Group	Mean	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75% Percentile	90th Percentile
Log_ASSET	All	3.31	0.71	2.34	2.93	3.32	3.72	4.19
	Issuer	3.53	0.62	2.87	3.12	3.46	3.91	4.35
	Non-Issuer	2.94	0.70	1.93	2.52	3.06	3.41	3.72
ROA	All	0.065	0.052	0.013	0.041	0.063	0.094	0.124
	Issuer	0.072	0.048	0.026	0.045	0.066	0.098	0.130
	Non-Issuer	0.054	0.055	-0.011	0.031	0.058	0.087	0.110
TLE	All	1.94	2.43	0.53	0.93	1.41	2.31	4.15
	Issuer	2.18	2.65	0.70	1.08	1.58	2.51	4.41
	Non-Issuer	1.54	1.97	0.33	0.73	1.21	1.81	3.40
BETA	All	0.63	0.37	0.19	0.38	0.61	0.83	1.11
	Issuer	0.65	0.33	0.26	0.42	0.64	0.85	1.03
	Non-Issuer	0.59	0.43	0.10	0.24	0.54	0.80	1.23
INSTITUTE%	All	0.58	0.21	0.27	0.47	0.63	0.75	0.82
	Issuer	0.61	0.20	0.37	0.53	0.64	0.76	0.82
	Non-Issuer	0.53	0.23	0.21	0.37	0.56	0.73	0.79
MGT_OWN%	All	0.08	0.15	0.00	0.01	0.02	0.08	0.23
	Issuer	0.06	0.14	0.00	0.00	0.01	0.04	0.19
	Non-Issuer	0.10	0.16	0.00	0.01	0.04	0.10	0.29
AUDIT_INDEP	All	0.63	0.48	0.00	0.00	1.00	1.00	1.00
	Issuer	0.64	0.48	0.00	0.00	1.00	1.00	1.00
	Non-Issuer	0.61	0.49	0.00	0.00	1.00	1.00	1.00
AUDIT_MEET	All	0.69	0.46	0.00	0.00	1.00	1.00	1.00
	Issuer	0.76	0.43	0.00	1.00	1.00	1.00	1.00
	Non-Issuer	0.57	0.50	0.00	0.00	1.00	1.00	1.00

Variable Definitions:

Log_ASSET = The log of total assets (in millions) at year-end.

ROA = A three-year average of the Return on Assets.

TLE = Total liabilities/stockholders' equity at year-end.

BETA = The variability of the firm's stock returns against the S&P 500 for the one-year period (approximately 250 daily observations) prior to year end.

INSTITUTE% = The percentage of the firm's shares owned by institutional owners at year-end.

MGT_OWN% = The percentage of the firm's shares owned by management such as officers, directors, and other defined individuals at year-end.

AUDIT_INDEP = A dummy variable where one represents an audit committee comprised solely of independent members with no disclosed financial relationship (other than equity ownership) or employment with the firm, and zero if not.

AUDIT_MEET = A dummy variable where one represents an audit committee that met at least three or more times during the year, and zero if fewer meetings occurred. We use audit committee activity as a proxy for effectiveness.

TABLE 4
Wilcoxon Non-Parametric Test Results
Pooled Sample of 464 Firm-Years: 1996 – 2000

	Mean				
Variable	Issuing Firms	Non-Issuing Firms	Difference	Z -Value	*p*-Value
Log_ASSET	3.53	2.94	0.59	8.08	0.000 *
ROA	0.072	0.054	0.018	3.01	0.003 *
TLE	2.18	1.54	0.64	4.72	0.000 *
BETA	0.65	0.59	0.06	2.67	0.008 *
INSTITUTE%	0.61	0.53	0.08	3.69	0.000 *
MGT_OWN%	0.06	0.10	-0.04	5.59	0.000 *
AUDIT_INDEP	0.64	0.61	0.03	0.74	0.458
AUDIT_MEET	0.76	0.57	0.19	4.31	0.000 *

* Difference is statistically significant at $p < 0.01$ (two-tailed)

Variable Definitions:

Log_ASSET = The log of total assets (in millions) at year-end.

ROA = A three-year average of the Return on Assets.

TLE = Total liabilities/stockholders' equity at year-end.

BETA = The variability of the firm's stock returns against the S&P 500 for the one-year period (approximately 250 daily observations) prior to year end.

INSTITUTE% = The percentage of the firm's shares owned by institutional owners at year-end.

MGT_OWN% = The percentage of the firm's shares owned by management such as officers, directors, and other defined individuals at year-end.

AUDIT_INDEP = A dummy variable where one represents an audit committee comprised solely of independent members with no disclosed financial relationship (other than equity ownership) or employment with the firm, and zero if not.

AUDIT_MEET = A dummy variable where one represents an audit committee that met at least three or more times during the year, and zero if fewer meetings occurred. We use audit committee activity as a proxy for effectiveness.

TABLE 5
Pearson Pairwise Correlations of Independent Variables
Pooled Sample of 464 Firm-Years: 1996 - 2000

	Log_ ASSET	ROA	TLE	BETA	INSTITUTE%	MGT_ OWN%	AUDIT_ INDEP	AUDIT_ MEET
Log_ASSET	1.00							
ROA	0.10*	1.00						
TLE	0.22**	-0.16**	1.00					
BETA	0.37**	0.16**	-0.02	1.00				
INSTITUTE%	0.35**	0.16**	0.07	0.24**	1.00			
MGT_OWN%	-0.16**	-0.02	-0.14**	-0.12*	-0.24**	1.00		
AUDIT_INDEP	0.05	0.00	0.04	0.01	0.15**	-0.12**	1.00	
AUDIT_MEET	0.35**	-0.07	0.11*	0.08	0.20**	-0.03	0.10*	1.00

*, ** Pearson correlation coefficients are significant at $p < 0.05$ and $p < 0.01$, respectively (two-tailed)

Variable Definitions:

Log_ASSET = The log of total assets (in millions) at year-end.

ROA = A three-year average of the Return on Assets.

TLE = Total liabilities/stockholders' equity at year-end.

BETA = The variability of the firm's stock returns against the S&P 500 for the one-year period (approximately 250 daily observations) prior to year end.

INSTITUTE% = The percentage of the firm's shares owned by institutional owners at year-end.

MGT_OWN% = The percentage of the firm's shares owned by management such as officers, directors, and other defined individuals at year-end.

AUDIT_INDEP = A dummy variable where one represents an audit committee comprised solely of independent members with no disclosed financial relationship (other than equity ownership) or employment with the firm, and zero if not.

AUDIT_MEET = A dummy variable where one represents an audit committee that met at least three or more times during the year, and zero if fewer meetings occurred. We use audit committee activity as a proxy for effectiveness.

TABLE 6
Pooled Logistic Regression Results: 1996 – 2000

		Pooled Samples	
Variable	Expected	Model 1: 464 Firm-years	Model 2: 349 Firm-years
Intercept	?	-4.80 (47.71)**	-4.89 (37.72)**
Log_ASSET	+	1.53 (43.63)**	1.63 (37.70)**
ROA	+	9.52 (13.97)**	7.57 (7.22)**
TLE	+	0.07 (1.87)	0.06 (0.92)
BETA	-	-0.88 (6.80)**	-0.95 (6.19)*
INSTITUTE%	+	-0.14 (0.06)	-0.20 (0.09)
MGT_OWN%	-	-0.95 (1.73)	-1.14 (1.89)
AUDIT_ INDEP	+	0.01 (0.00)	-0.16 (0.38)
AUDIT_MEET	+	0.44 (3.38)	0.43 (2.29)
Chi-Square		109.59	87.01
Probability Level		0.000 **	0.000 **
% Predicted Correctly		70%	70%
Pseudo R^2		19%	20%

The Wald (Chi-square) statistic is indicated in parentheses
*, ** Coefficient statistically significant at $p < 0.05$ and $p < 0.01$, respectively
Variable Definitions:

Log_ASSET = The log of total assets (in millions) at year-end.
ROA = A three-year average of the Return on Assets.
TLE = Total liabilities/stockholders' equity at year-end.
BETA = The variability of the firm's stock returns against the S&P 500 for the one-year period (approximately 250 daily observations) prior to year end.
INSTITUTE% = The percentage of the firm's shares owned by institutional owners at year-end.
MGT_OWN% = The percentage of the firm's shares owned by management such as officers, directors, and other defined individuals at year-end.
AUDIT_INDEP = A dummy variable where one represents an audit committee comprised solely of independent members with no disclosed financial relationship (other than equity ownership) or employment with the firm, and zero if not.
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