New York University
Center for Law and Business

Working Paper #CLB-98-011

"Economic Determinants of Audit Committee Composition and Activity"

April Klein

March 1998

Economic Determinants of Audit Committee Composition and Activity

by

April Klein

Leonard N. Stern School of Business
New York University
40 West 4th Street
New York, N.Y. 10012
(212) 998-0014
aklein@stern.nyu.edu
March 1998

Financial support is provided by a summer grant from the Stern School of Business

Abstract

In this paper, I examine possible reasons behind observed differences in audit committee composition and activity. The governance structures of audit committees appear to be sensitive in meeting the monitoring and litigation risk needs of the parent firm. However, boards with stronger CEOs also have a higher probability of placing insiders and interested directors on their audit committees than boards with relatively weaker CEOs. Audit committees of strong-CEO firms also tend to meet less frequently than their counterparts.

Economic Determinants of Audit Committee Composition and Activity

I. Introduction

This study examines possible economic factors behind observed variations in audit committee composition and activity The audit committee oversees the internal and external audit processes of the firm. Its primary function is to maintain a continuing review of the corporation's financial data and internal accounting controls, contributing to the integrity of financial reporting. The committee achieves this goal by recommending the external auditor to shareholders, and by interfacing with the external auditors, the internal auditors, and the entire board of directors. It helps alleviate the agency problem by facilitating the timely release of unbiased, accounting information by managers to those with a stake in the company, thus reducing the information asymmetry between insiders and outsiders.

The success of the audit committee in achieving these goals is unclear. Wild (1994) presents evidence that earnings are significantly "more informative" to market participants after formation of the audit committee. DeFond and Jiambalvo (1991) find overstatements of earnings in financial statements are less likely among firms that have audit committees. Klein (1998) and Beasley (1996), however, find no evidence that audit committees are related to firm performance or to the probability of financial statement fraud. In fact, the Treadway Commission reports that 69% of the public companies involved in the fraudulent financial reporting cases brought by the SEC from 1981 to 1986 had audit committees (1987, p. 40).

Despite the ambiguous evidence, many regulatory agencies endorse the establishment of audit committees. Since July 1, 1978, the New York Stock Exchange requires each listing domestic corporation to have an audit committee "comprised solely of directors independent of management..." Beginning February 1, 1989, NASDAQ requires each issuer to "establish and maintain an audit committee, a majority of members of which shall be independent directors." The American Stock Exchange recommends standing audit committees composed solely of

independent directors. The FDIC Improvement Act of 1991 requires large banks to have audit committees consisting solely of outside directors. In addition, the SEC, the Business Roundtable, and the Treadway Commission advocate the establishment of board audit committees composed solely of independent directors. The Treadway Commission also recommends that audit committees meet at least four times a year.[1]

These requirements and recommendations suggest that after 1989, most publicly-traded firms will have active audit committees, staffed primarily or exclusively with outside directors.[2] However, Klein (1998) and Verschoor (1993) present evidence that audit committee composition after this period varies dramatically from firm to firm. One reason behind these variations may be CEO board dominance, i.e., CEOs who dominate their firms' boards are less likely to have strong, independent audit committees (Goldman and Barlev (1974), Knapp (1987), and Marsh and Powell (1989)). This hypothesis suggests that CEOs are flouting regulations for independent boards for their own, private benefit. A second reason behind these variations may be economic differences among firms (Williams (1977) and Mautz and Neary (1979)). One example is firms in industries with relatively smooth earnings may have less need for the services of diligent audit committees than firms in industries with high degrees of earnings fluctuations. This hypothesis suggests that a "cookie cutter" board structure may not serve all firms equally well, thus warranting regulatory bodies to supply a degree of flexibility into their board requirements.

[1] The SEC first recommended the establishment of audit committees comprised of nonofficer board members in 1940 (Accounting Series Release no. 19). The Treadway Commission advocated the establishment of audit committees comprised solely of independent directors in their October 1987 report entitled "Report of the National Commission on Fraudulent Financial Reporting."

[2]Many companies, however, had established audit committees prior to its requirement. According to Williams (1977), in 1974 approximately 88% of the 1,130 firms that replied to a NYSE survey had an audit committee, and 84% were composed exclusively of outside directors. Pincas, Rubarsky and Wong (1989) and Menon and Williams (1994) report that for their sample of 100 (200) NASDAQ firms over the 1986-1987 period, 68% and 78%, respectively had an audit committee.

The purpose of this study is to propose and empirically test various hypotheses behind observed differences in audit committee composition and activity for large, publicly-traded firms. Specifically, I pose the following empirical questions:

(1) Do firms with strong CEO's have less independent audit committees than firms with less influential CEO's? Do the committees meet less often?

(2) Are there systematic economic factors that influence audit committee composition and activity? Two economic factors I identity are monitoring needs (Menon and Williams (1994)), and ex-ante litigation risk (Williams (1977)).

(3) Do firms with more independent and/or active audit committees have different internal corporate control mechanisms than firms with less independent audit committees? Alternative internal corporate control structures include large outside blockholders, director shareholdings, and institutional shareholdings.

II. Relation to Existing Literature

Very little work has been done on board committees in general, and on audit committees in specific. One line of research has been to present data on the types of directors (insiders, outsiders and affiliated directors) that sit on audit committees. Vicknar, Hickman and Carnes (1993) examine the percentage of affiliated directors on audit committees for 100 NYSE firms between 1980 and 1987. They find that, contrary to the newly instituted NYSE requirement that audit committees be comprised solely of directors independent of management, more than one-quarter of all firms over the previous period had audit committees with a majority of affiliated directors. Verschoor (1993) shows similar results for a sample of banks subject to the FDIC Improvement Act of 1991. Klein (1998) finds a lack of independence for her sample of S&P 500 firms over a two year period ending in 1993.

A second group of studies identifies the characteristics of firms that voluntarily form audit committees. Pincas, Rusbarsky and Wong (1989) and Menon and Williams (1994) examine 100 (200) NASDAQ firms between 1986 and 1987. They find that companies with standing audit committees were more likely to have Big Eight independent auditors and had a higher proportion of outside directors than firms without such committees. However, no consistent associations were found in these two studies between the likelihood of having an audit committee and agency costs of equity (measured by management's shareholdings), agency costs of debt (measured by the firm's debt-to-assets ratio), or economies of scale in monitoring costs (measured by firm size). Eichenseher and Shields (1985) find similar results for their sample of 64 American Stock Exchange firms.[3] These papers suggest that audit committees may not be formed as a means to deal effectively with the firm's agency problems.

However, as Menon and Williams (1994) correctly point out, "...[t]he mere formation of an audit committee does not mean that the boards of directors actually relies on the audit committee to enhance its monitoring ability" (p. 121).[4] To explore this contention, they look for evidence that boards of directors actually use or rely on audit committees. Reliance is proxied (positively) by the frequency of the audit committee's meetings and (negatively) by whether at least one inside director sat on the audit committee. Menon and Williams conclude that although 156 their 200 NASDAQ firms voluntarily formed audit committees, many of these firms did not rely on them First, fifty-seven of the audit committees did not meet or met only once during the year. Second, 19 (12%) of the audit committees had at least one inside

[3] Bradbury (1990) finds similar results for 135 firms listed on the New Zealand Stock Exchange.

[4] Their sentiments are a reflection of the second recommendation of the Treadway Commission calling for audit committees to be "informed, vigilant, and effective overseers of the financial reporting process and the company's internal controls" (p. 41).

director. Menon and Williams also find little to no association between monitoring needs and the number of meetings or the incidence of having an inside director on the committee. Instead, the number of meetings is positively and significantly related to firm size and the percentage of outsiders on the board, variables which Menon and Williams admit can have competing interpretations (p. 138). Having at least one insider is negatively and significantly related to the percentage of outsiders on the board. Management shareholdings, the firm's debt-to-assets ratio, CPA type (Big-8 or not), and board size were not found to be significantly associated with either variable.[5]

A third line of research has been to examine the effects of audit committee existence (but not composition). Wild (1994) finds that earnings became significantly more informative to market participants after formation of the audit committee. He uses data from 260 U.S. companies that formed audit committees between 1966 and 1980. His main finding is that the relationship between earnings and returns (known as the ERC) increases from 0.15 before formation to 0.28 after formation. Dechow, Sloan and Sweeney (1996) report that firms with a board majority of inside directors and without an audit committee are more likely to commit financial fraud, compared to a control sample matched by industry and size. DeFond and Jiambalvo (1991), using a sample of 41 corrections of earnings overstatement errors from 1977 to 1988 and a matching control sample, find that earnings overstatements are less prevalent for firms that have audit committees. Beasley (1996), on the other hand, finds no relationship between the

---

[5] In a survey of chief internal auditors of Canadian manufacturing companies, Scarbrough, Rama and Raghunandan (1998) find that audit committees solely consisting of non-employee directors were more likely, than audit committees with one or more insiders, to have frequent meetings with the chief internal auditor, and to review the internal auditing program of the firm.

incidence of financial statement fraud and the existence of an audit committee. His sample consists of 75 firms accused by the SEC of violating Rule 10(b)-5 of the 1934 Act and 75 "non-fraud" firms during the period 1980-1991.

III. Hypotheses and Variables Used

I propose two alternative hypotheses to explain (1) variations in audit committee composition and (2) variations in the number of times audit committees met throughout the year. They are the CEO-dominance hypothesis and the economic needs hypothesis. I also propose that alternative corporate mechanisms may substitute for the role of the audit committee.

A. CEO-Dominance Hypothesis

Under the CEO-dominance hypothesis, CEOs want to weaken the audit committee's ability to monitor their actions by placing friendly faces on the audit committee. Their ability to do so depends on their power over the board and the committee selection process.

Consistent with previous literature, I first classify directors into insiders, outsiders and affiliates. I later refine this classification by examining specific director-types, e.g., relatives, former CPA firm partners, and CEOs of other S&P 500 firms.

Outside directors have no affiliation with the firm beyond being a member of the firm's board and are considered to be less friendly towards the CEO.[6] Inside directors are presently employed by the firm, typically, the CEO, President or a Vice President; they are assumed to be friendly towards management. Affiliated directors are former employees, relatives of the CEO, or have significant transactions and/or business relationships with the firm

[6] The view that outside directors of large, public firms, are independent of management is not universally held. For example, Gilson and Kraakman (1991) argue that outside directors "turn out to be more independent of shareholders than they are of management." (p. 863)

as defined by Items 404(a) and (b) of Regulation S-X.[7] Their relation to the CEO is unclear. Relatives, on average, are considered to be friendly toward the CEO. Other affiliated directors may or may not be friendly to management.[8]

H1A: CEO dominance is negatively (positively) related to the percentage of outsiders (insiders and/or relatives) on the audit committee.

H1B: CEO dominance is negatively related to the frequency of the audit committee's meetings for the year.

Two measures of the degree of CEO dominance over the board are used. The first is a dummy variable called CEO Influence equal to one if the CEO sits on the board's nominating committee or if there is no sitting nominating committee (in which case the board as a whole acts as a nominating committee), and zero eitherwise. Klein (1998) provides evidence on the relative effectiveness of this classification. The second measure is the amount of time the CEO has been on the board (CEO tenure), with longer tenures being indicative of more CEO control (e.g., see Hermalin and Weisbach (1996)).[9]

B. Economic Factors Hypotheses

[7] "Significant" business transactions are defined by Items 404(a) and 404(b) of Regulation S-K of the 1934 Securities and Exchange Act. Item 404(a) specifies a threshold of $60,000 for a transaction to be considered significant. Item 404(b) defines "certain business relationships" to include significant payments to the firm in return for services or property, significant indebtedness by the firm, outside legal counseling, investment banking, consulting fees and other joint ventures. Directors on interlocking boards are also defined as affiliates. Consistent with Item 402(j)(3)(ii), interlocks are defined as those situations in which an inside director serves on a non-inside director's board.

[8] The key determinant is the interpretation of the role that financial ties play between the director and the firm. If financial ties make the affiliated director beholden to management, then the incidence of affiliated directors on the board will be directly related to CEO-dominance over the board selection process. If the financial ties are not side payments between the firm and the director for the director's acquiescence to the CEO, then there will be a zero or negative relation between the percentage of affiliated directors and CEO-control.

[9] A third measure, a dummy variable equal to one if the Chairman of the Board and the CEO are the same person, and zero otherwise was considered but later rejected. Brickley, Coles and Jarrell (1997) and Klein (1988) find no empirical evidence to suggest that this variable is related positively to CEO dominance. Ittner, Larcker and Rajan (1997), using a similar multivariate model to this paper, find a contradictory result using this variable in their definition of CEOPOWER. Examination of the data in this study reveals no connection between CEO domination and this variable.

Under the economic needs hypotheses, audit committee composition and the frequency of audit committee meetings vary according to the economic needs of the firm. Two types of economic needs associated with audit committee functions are monitoring needs and litigation risks.

1. Agency Costs (Monitoring Needs)

Agency problems among shareholders, debtholders and managers necessitate the implementation of costly contracts, compensation plans and monitoring schemes of inside managers. Agency costs between shareholders and management are particularly high for large open firms where the separation between ownership and control is pronounced (Berle and Means (1932)). Agency problems also exist among shareholders, management, and more senior claimants on the firm's assets. They too may want increased monitoring to insure that managers and/or shareholders do not expropriate their wealth through changes in company by-laws, charter amendments, dividend distributions or other means (Jensen and Meckling (1977)).

H2A: The percentage of outside (inside) directors on the audit committee is positively (negatively) related to the monitoring needs of the firm.

H2B: The frequency of audit committee meetings is positively related to the monitoring needs of the firm.

Unfortunately, there are no direct measures of agency costs between management and shareholders. Pincas, Rusbarsky, and Wong (1989) and Menon and Williams (1994) use management shareholdings as an indirect proxy. However, I argue that inside ownership is a substitutable mechanism for the audit committee, and not an appropriate measure of agency costs. Instead, I propose two possible, but incomplete, proxies: the size of the firm (Smith and Watts (1992)), with larger firms having more monitoring needs, and past firm performance, with poor performance being indicative of higher agency costs (Hermalin and Weisbach (1988)). Since firm performance is difficult to estimate, three distinct measures are used: return on assets, abnormal market returns, and the opportunity

set of the firm.[10] To gauge the agency costs between creditors and shareholders and management, I use the firm's degree of leverage (e.g., see Pincas, Rusbarsky and Menon (1989) and Menon and Williams (1994)), defined as the firm's three year debt-to-assets ratio.

2. Ex-Ante Litigation Risk

The Securities Act of 1933 and the Securities Exchange Act of 1934 (the "Acts") provide specific remedies to insure the accuracy of financial disclosures to the public. These remedies may be enforced by SEC administrative proceedings, court injunctions, and, in some cases, criminal prosecution.[11] The Acts provide for explicit remedies for outside investors. As an example, Section 11 of the 1933 Act allows for purchasers of securities to sue the issuer (firm), its board of directors, underwriter, and accountant (among others) for material misinformation or omission in the prospectus. In addition, the courts have established an implied private right of suit against the same parties under Sections 10 and 14 of the 1934 Act for misleading statements or omissions in financial statements or proxy statements.[12]

Under the Foreign Corrupt Practices Act of 1977, the board of directors is responsible for devising and maintaining a system of internal accounting controls for the firm, with criminal penalties for nonperformance.

---

[10] Return on assets, Lagged ROA, is three-year net income before extraordinary items plus the after-tax interest expense over three-year book value assets of the firm ending on the fiscal year prior to the shareholders' meeting. Lagged Ab. Returns is two-year beta-and-market-adjusted market returns ending on the fiscal year prior to the shareholders' meeting. Lagged Opportunity Set is three-year total firm value to three-year total assets-in-place set ending on the fiscal year prior to the shareholders' meeting (Smith and Watts (1992) and Gaver and Gaver (1993)).

[11] For example, see Section 17(a) of the 1933 Act and Section 18(a) of the 1934 Act.

[12] In 1971, Superintendent of Insurance of the State of New York v. Bankers Life and Casualty Co. (404 U.S. 6 92 S. Ct. 165, 30 L.Ed.2d. 128) established the private right to sue under Section 10. In 1964, the private right to sue under Section 14 was established in J.I. Case v. Borak (377 U.S. 426, 84 S. Ct. 1555, 12 L.Ed.2d 423).

The role of the audit committee is to "enable the board of directors to better fulfill their oversight responsibilities with respect to an issuer's accounting, financial reporting and control obligations" (SEC Release no. 34-15772, issued April 30, 1979). Thus, the audit committee serves as the board's vehicle for vigilant scrutiny over the accounting process. Williams (1977) and Eichenseher and Shields (1985) argue that an effectively functioning audit committee is defensively desirable because it is evidence that the board of directors have endeavored to fulfill their legal obligations.

H3A: The percentage of outside (inside) directors on the audit committee is positively (negatively) related to the ex-ante probability that the firm will be sued for providing misleading financial information or to having inadequate controls.

H3B: The frequency of audit committee meetings is positively related to the ex-ante probability that the firm will be sued for providing misleading financial information or to having inadequate controls.

There are no direct measures of the probability that the firm will be sued by investors or by the SEC. Pincus, Rusbarsky and Wong (1989) use the percentage of outside directors as their proxy. However, this variable can have many alternative explanations and is not used herein.[13] Instead, several possible proxies for legal exposure are considered. Two are accounting related and will be of special interest to the audit committee; they are a sequence of two or more past accounting losses, and the five-year lagged standard deviation in the firm's return on assets. Other proxies are exogenous to accounting; they are beta risk (Francis, Philbrick, and Schipper (1994)), firm size (with larger firms having deep pockets and therefore being more vulnerable, e.g., see Francis, Philbrick, and Schipper (1994)), the firm being in a hi-tech industry (measured by research and development expenditures over assets), or by the firm being in the software industry

[13] Kosnik (1987) and Menon and Williams (1994) use the percentage of outside directors as a proxy for management influence over the board. Klein (1998) uses it as a barometer for the board's ability to place outside directors on monitoring committees.

(e.g., see Kasnik and Lev (1995) who show that these types of firms are sued more frequently than other companies.)

C. Alternative Mechanisms

The audit committee is but one corporate governance mechanism within a menu of possible choices. If corporate governance mechanisms are substitutable, then strong alternative corporate governance mechanisms should mitigate the need for the firm to have an active, independent audit committee.[14] Under this scenario, the percentage of outside directors on the audit committee and the frequency of audit committee meetings will be inversely related to various alternative corporate governance mechanisms.

However, a plausible and equally compelling view may be that corporate governance mechanisms are complements.[15] For example, outside blockholders may monitor management by insisting that audit committees be comprised solely (or largely) of outside board members. Under this scenario, alternate corporate governance mechanisms will be positively related to the percentage of outsiders and the number of meetings of the firm's audit committee.

Thus, the relation between audit committee independence and activity and other mechanisms is purely an empirical question, necessitating no a priori predictions. Nevertheless, to control for potential interdependencies among mechanisms, I include four alternative corporate governance mechanisms. They are (1) %Director Shares, the percentage of director shareholdings, (2) Outside Dir. Blockholder, a dummy variable equal to one if at least one large (5% shareholdings) outside blockholder sits on the firm's board and zero otherwise, (3) %Institutional Holdings, the percentage of shares held by institutions, and (4) Auditor Vote, a dummy variable equal to one if shareholders vote

[14] For example, Agrawal and Knoeber (1995) find evidence supporting the substitutability between institutional shareholdings and large (5%) blockholders.

[15] For example, Agrawal and Knoeber (1995) find a positive associations with the market for corporate for corporate control and both institutional ownership and outside blockholdings.

directly at the annual shareholder meeting for the selection of the outside auditor, and zero otherwise.[16]

D. Other Control Variables

Two additional control variables are included in the multivariate analysis. A yearly dummy variable identifies possible temporal effects. %Outsiders, the percentage of outsiders on the entire board, captures possible interactions between board composition and audit committee activity and independence.

IV. Data Used In The Study: Sample Selection and SEC-Required Data

Proxy statements were obtained from all U.S. firms listed on the S&P 500 as of March 31, 1992 and 1993 with annual shareholder meetings between July 1, 1991 and June 30, 1993. Rule 14a-3(8) of the Securities Exchange Act of 1934 requires proxy statements associated with the election of directors to furnish information about all current directors and nominees. As articulated in Schedule 14A, firms must disclose each director's name, business experience during the last five years, other current directorships, family relationships between any director, nominee or executive officer, significant current or proposed transactions with management, "certain business relationships" with the firm, and current shareholdings of the firm.

Schedule 14A (Item 7(e)(1)) requires firms to state whether they have a standing audit committee. If such a committee exists, firms are required to disclose its functions and responsibilities, its members, and the number of times the committee met during the last fiscal

---

[16] For the sample used in the study, the mean (median) statistics for each variable are:
(1) %Director Shares 8.5% (1.7%)
(2) Outside Dir. Blockholder 3.7% of all firms have a 5% shareholder outside director
(3) %Institutional Holdings 55.4% (57.1%)
(4) Auditor Vote 67.4% of all firms have shareholders vote on the auditor at the annual meeting.

year. Although not required, most firms disclose who the committee chair is. The same requirements are in place for standing board nominating committees.

All financial data are from Compustat. All returns data are from CRSP. From the original sample, 65 banks and financial institutions and 38 insurance companies were excluded due to their unique financial structures; three firms had no standing audit committee and were deleted; and 58 firms were excluded due to missing Compustat or CRSP data. The final sample consists of 771 firms over a two-year period.

IV. Descriptive Statistics: Who sits on the Audit Committee

Table 1 presents descriptive data on the board as a whole and on its audit committee.

Consistent with recent studies or surveys of board composition, 58.4% of the board are comprised of outside directors, less than one-quarter (22.5%) are inside directors; and the rest (19.1%) are affiliated directors.[17] In contrast, audit committees contain a preponderance of outsiders (79.6%), and a paucity of insiders (1.4%). Using t-tests, I examine whether the apparent differences in board and audit committee percentages are statistically different. For outsiders, a t-statistic of 33.92 is found, significant at the .01 level. For insiders, a t-statistic of -52.41 is found, also significant at the .01 level. Thus, audit committees, on average, are more independent than their parent boards are.

However, 19.0% of audit committee members are affiliated directors, suggesting that the audit committee does not achieve the absolute independence from management as prescribed

[17] The National Association of Corporate Directors (NACD), in conjunction with Ernst & Young, reports an average board size of 12, with 26% being insiders in their 1988 survey of 850 respondents. Yermack (1996) reports a mean board size of 12.25, with 54% being outsiders for his sample of 452 firms listed on the *Forbes* 500 between 1984 and 1991. Bhagat and Black (1996) reports similar percentages of insiders for 957 large U.S. firms from early 1991.

by the NYSE and the FDIC, and recommended by the ALI or Business Roundtable. A Hotelling T^2 test for absolute independence (i.e., 100% outsiders) produces F-statistics significant at the .01 level, rejecting the null hypothesis of absolute independence.[18]

I also present data on the percentage of firms that have at least one type of director on the audit committee. Interpretation of these results vis-à-vis the entire board is less straight-forward since boards, on average, contain 12.3 members whereas audit committees, on average, contain just 4.4 members. Thus, any board member has a one in three chance of being on the audit committee.

Bull and Sharp (1989) recommend that audit committees should enlist current or retired CEOs of other corporations and retired CPA firm partners. From column (2), it can be seen that one-quarter of all audit committees have a current and/or retired CEO of another S&P 500 firm. Since approximately 40% to 50% of all firms have at least one current and/or retired CEO on their boards, it would appear that over half of all these directors serve on their respective boards' audit committee. Similarly, 4% of all boards have at least one former CPA as a sitting director. Again, it appears that almost all of these directors are members of the board's audit committee since 3.6% of all audit committees contain a former CPA. Two categories of directors that appear to be underrepresented on the firm's audit committee are the current CEO of the firm and a former employee of the firm.

V. Empirical Results

---

[18] The Hotelling T^2 test determines if the mean of the joint distribution of insiders/affiliates/outsiders for the committee is significantly different from a pre-determined mean. In this case, the pre-determined mean is 0% insiders, 0% affiliates and 100% outsiders. The F-statistic is 184.51, significant at the .01 level.

Univariate Results. The empirical investigation begins by reporting Spearman correlations between audit composition and activity and the sixteen independent variables discussed in section III. Pearson correlations, when applicable, produce qualitatively similar results and are not shown. Although multiple regression techniques are more powerful if correctly specified, univariate tests are an important first step because they rely on fewer assumptions and thus are more robust.

Table 2 presents the Spearman correlations and associated p-values. %AUDOUT is the percentage of outsiders on the standing audit committee, %AUDINS is the percentage of insiders on the audit committee, and %AUDAFF is the percentage of affiliated directors on the audit committee. Meetings is a dichotomous variable equal to one if the audit committee met four or more times, and zero otherwise. This cut-off was chosen in response to the Treadway Report's explicit recommendation that audit committees have oversight over the firm's quarterly reporting process. (p. 12, and pp. 47-48 of the Treadway Report).[19] Three hundred audit committees (38.9%) met four or more times; 471 (61.1%) met three or less times.

Three of the four predictions are supported by the univariate results.

First, the CEO's dominance over the board is related to audit committee composition and activity. %AUDOUT (%AUDINS) is negatively (positively) to whether the CEO sits on the nominating committee and to the CEO's tenure on the board. Three of the four Spearman correlations are significant at the .02 level, or lower. Meetings is negatively related at the .04 level to the CEO being on the board's nominating committee and at .01 level to CEO tenure. Interestingly, affiliates are placed more often on audit committees

[19]Deloitte & Touche (1994) endorse this action.

for firms with strong CEOs than for firms with weaker CEOs. This supports contentions made by the Treadway Commission, the SEC and others that only outside directors are free from management influence.

Second, shareholder agency costs are correlated systematically with audit committee composition and activity. %AUDOUT (%AUDINS) is significantly negatively (positively) associated with Lagged ROA and Lagged Opportunity Set; Meetings is significantly negatively correlated with the same two variables; Firm Size is positively associated with %AUDOUT and Meetings; it is negatively correlated with %AUDINS. Again, the interpretation of the signs and significance levels for %AUDAFF suggests that affiliated directors on audit committees more closely resemble insiders than outsiders.

Third, debtholder agency costs are linked to audit committee composition and activity. The positive correlations between Debt/Assets and %AUDOUT and Meetings are significantly positive at the .01 level. %AUDINS is significantly negative at the .01 level. %AUDAFF is also significantly negative (at the .04 level).

In contrast, no empirical evidence is found in support of the ex-ante litigation risk hypothesis. Only one correlation, relative R&D expenditures with Meetings, is significant in the predicted direction.

Finally, conflicting evidence is found between audit committee composition or activity and competing corporate governance mechanisms. %Director Shares is significantly negatively (positively) correlated with %AUDOUT and Meetings (%AUDINS). This suggests that inside share ownership may be a substitute for a strong audit committee. However, Auditor Vote has a significantly positive correlation with Meetings and a

significantly negative correlation with %AUDINS. This is consistent with the two mechanisms acting as complements rather than substitutes. All other correlation statistics are either statistically insignificant or are in a competing directions with each other. Thus, few conclusions on the interdependence between audit committees and other corporate governance devices can be garnered from Table 2.

In summary, the univariate results suggest that audit committee composition and activity are associated with the firm's monitoring needs and to the degree of domination the CEO has over the board. In contrast, little evidence is found of a systematic relation between audit committee composition or activity and the ex-ante litigation risk of the firm or competing corporate governance mechanisms.

Multivariate Analysis: Empirical Specifications. The univariate results reported in the last section are suggestive at best because of potential interactions among the variables and because the individual proxies discussed above are imperfectly measured. To deal with interactions among independent variables, I use a multiple regression analysis. Multiple regression provides a method for determining the incremental effect of each variable as well as the overall significance of the variables. To deal with the errors-in-the-variables problem associated with using imperfect proxies and with clustering of variables, I use a principal components analysis to determine the underlying constructs for CEO domination over the board, shareholder agency costs, and ex-ante litigation risk (see Goldberger (1972)).[20] The Appendix has a description of the principal components methodology, standardized coefficients, and evidence of clustering among independent variables.

[20] To paraphrase Goldberger, principal components are "just a generalization of the classical errors-in-the-variables model" p.992. Other recent papers using factor analyses or principal component factors as

I measure the percentage of director-type on the board by applying a logistic transformation to these percentages using the formula Ln((pct./1-pct.)+1). The transformation converts an otherwise bounded dependent variable into an unbounded one. Adding one to the percentage allows firms to have zero types of directors on the committee. Meetings is a dichotomous variable equal to one or zero, and thus I use a logit statistical model.

Table 3 contains the regression results for audit committee composition and activity levels. Although the results are not uniform across dependent variables, there is some evidence that audit committee composition and activity are driven by CEO domination over the board, shareholder agency problems, and ex-ante litigation risk across firms. First, the coefficient on CEO Dominance is significant and in the predicted directions for the regressions on %AUDINS and Meetings, respectively. Second, the coefficient on Shareholder Agency is significantly positive at the .01 level for %AUDINS.[21] Third, Ex-Ante Litigation Risk is significantly negatively related to %AUDINS and significantly positively related to Meetings; Software, another proxy for ex-ante litigation risk, is positively related to %AUDOUT. Finally, the coefficient on Size of Firm is positively related to Meetings and negatively related to %AUDINS, findings consistent with both the Shareholder Agency and Ex-Ante Litigation Risk hypotheses.

---

inputs to a multiple regression are Titman and Wessels (1988), Ittner, Larcker and Rajan (1997), Callen, Fader and Krinsky (1997) and Matsumoto (1998).

[21] Shareholder Agency is proxied by poor past firm performance. From the appendix, the factor "Shareholder Agency" is positively related to past firm performance. Thus, the expected sign on the coefficients are opposite of what the name implies.

The shareholder monitoring results differ from those reported by Menon and Williams (1994) who find no evidence of a linkage between having one inside director on the firm's audit committee and shareholder agency costs. The insignificant findings for debtholder agency costs are consistent with those found by Menon and Williams. The results on CEO domination and ex-ante litigation risks are new since I am unaware of any paper testing these two hypotheses.

As a final note, very strong statistical relations are found between %Outsiders, the percentage of outside directors and audit committee composition. I interpret the positive coefficient for the regression on %AUDOUT and the negative coefficients for the regressions on %AUDINS and %AUDAFF as showing a link between the availability of outside directors able to serve on audit committees and the actual number of outside directors who do so.

Multivariate Results: Specific Director-Types. The Treadway Commission recommended that all public companies establish audit committees consisting of independent directors. The Treadway Report details many responsibilities expected to be undertaken by the firm's audit committee. Two responsibilities stressed by the Treadway Report are the selection of the independent public accountant for the company and an active oversight of the company's financial reporting process and reports. Although the Treadway Report does not recommend specific director-types to fulfill these obligations, three obvious candidates come to mind: retired CPA firm partners, current CEOs of other large corporations, and retired CEOs of other large corporations (Bull and Sharp

(1979)).[22] Similarly, two obvious candidates for non-inclusion are the CEO of the firm and a relative of the CEO.

Table 4 presents five logit estimations examining probabilities of audit committees including any of the five above director-types. The dependent variable is dichotomous. For example, in column (1), the audit committee either has or does not have at least one former CPA as a member.

As column (1) illustrates, firms whose audit committees contain at least one former CPA have higher ex-ante litigation risk (p-value < .10). Interestingly, these firms also have more dominant CEOs (p-value < .05). However, only 25 firms in the sample have former CPAs on their audit committees. As a result, the R^2 and F-values of the regression are very low, suggesting a weak statistical fit of the data.

The statistical fits for the regressions on outside directors who are current and former CEOs of other large firms are more substantive. The R^2s are .08 and .07, respectively; the F-values are each significant at the .01 level. For both regressions, being on the audit committee is positively related at the .01 level to %Outsiders and Size of Firm. The result on Size of Firm is intuitively appealing since it implies that larger (i.e., more complicated) firms engage the services of individuals acquainted with financial reporting issues of similar-sized firms. The statistically positive coefficient on Ex-Ante Litigation Risk for the regression on retired CEOs of other large firms is consistent with the same premise.

[22] Knapp (1987) conjectures that corporate managers may be "well versed in current accounting and reporting issues" (p. 580). In contrast, he argues that returned business executives "may lack a thorough understanding of current accounting and reporting issues and may not have the necessary economic incentives to become actively involved in policing management" (p.580). Thus, the view on retired CEOs is not universal.

The results for the regressions on CEO of Firm and Relative of CEO are consistent with the overall view that audit committee composition varies systematically with the economic needs of the firm. First, Shareholder Agency is significantly positive for the estimation on whether the audit committee has the CEO as a member. This implies that firms with lower shareholder agency problems are more apt to have the CEO as a sitting member of its audit committee. Second, Ex-Ante Litigation Risk is significantly negative for the regression on whether the CEO's relative sits on the firm's audit committee. Thus, there is a negative association between the degree of ex-ante litigation risk and the incidence of having the CEO's relative on the audit committee.

As an interesting side-bar, little evidence is found that specific director-type is related to the CEO domination over the board. In particular, the probability of having the CEO or his relative on the audit committee appears to be unaffected by how powerful he is.

Finally, I examine whether the incidence of having any above director-types affects the audit committee's activity level. To examine this, I reestimate the logit model on Meetings from Table 3 to include these director-types as separate regressors.[23] The results are consistent with expectations. Audit committees with former accountants or current CEOs of other firms meet more often; the coefficients are significant at the .05 and .04 levels, respectively. The coefficients on inside directors and relatives of the CEO are negative; however, the p-values for these variables are only at the .12 and .13 levels.

[23] I also include the percentage of outsiders on the audit committee and the average number of years each director has been on the audit committee as control variables. Both independent are insignificantly different from zero at the .43 and .86 levels, respectively.

In summary, although the evidence is not overwhelming, there is sufficient proof that audit committees pick specific director-types in accordance to the firm's needs for monitoring, dealing with litigation risk, and dealing with issues related to firm complexity. There is also reason to believe that director-type affects the committee's activity level.

VI. Concluding Remarks

In this study, I examine possible reasons behind observed differences in audit committee composition and activity. Although 97.9% of all audit committees for large U.S. firms have at least one outside, independent director, more than one-half of the sampled firms also have at least one affiliated, interested director and nearly 5% have a member of the firm's upper management. These percentages fly in the face of the Treadway Report which advocates that audit committees be comprised solely of independent directors. In addition, contrary to the Treadway Commission's explicit recommendation, only 38.9% of audit committees meet four or more times per year.

Two possible explanations for these observed variations are put forth and examined. The first is that boards with dominant CEOs are reluctant to have active, independent audit committees whose sole purpose is to act as a monitor on upper management's actions. The second explanation is that audit committees are constructed and act according to the economic needs of the firm. The evidence presented throughout this paper supports both points of views. The governance structures of audit committees appear to be sensitive in meeting the monitoring and litigation risk needs of the parent firm. However, there is some evidence that boards with strong CEOs have a higher probability of placing insiders and interested directors than boards with relatively weaker

CEOs. Audit committees of strong-CEO firms also tend to meet less frequently than their counterparts.

These contradictory findings raise interesting issues for further study. For example, is financial fraud related to audit committee composition and activity? The Treadway Commission believes this is so. However, Beasly (1996) and Dechow, Sloan and Sweeney (1996) find conflicting results on the relation between financial fraud and audit committee existence. To date, no study has examined the role that committee make-up and activity play in this arena. An ancillary question is whether firms with higher ex-ante litigation risks can avoid being sued by investors or the SEC for financial reporting deficiencies by having more vigilant and independent audit committees. Again, this is an area that has yet to be explored.

Appendix

Principal Components Model for Factors Used in Tables 3 and 4

Principal components is a well-established econometric procedure (Kloek and Mennes (1960) and Aigner, Hsiao, Kapteyn, and Wansbeek (1984)) designed to take into account the fact that the underlying constructs are noisy proxies of the "true" indices. It reduces the dimensionality of the explanatory variables into a smaller number of distinct, linear factors, which, in principle, maximize the explanatory power of the proxies. Principal components is a useful econometric tool when more than one variable is considered to be a possible proxy for any individual factor (e.g., CEO domination is comprised of CEO tenure and CEO being on the Nominating Committee) or when one variable may contribute to more than one underlying construct (e.g., Ln(Assets)).

Three factors with eigenvalues greater than one were obtained preserving 56% of the total variance of the data. The standardized scoring coefficients for the three factors are:

	Shareholder Agency Costs	Ex-Ante Litigation Risk	CEO domination
CEO on Nom. Committee	-.05	-.04	.51
CEO Tenure	-.04	-.16	.51
Lagged ROA	.38	.07	.02
Lagged Market Returns	.34	-.08	-.10
Lagged Opportunity Set	.34	.21	.03
Negative Income	-.25	.18	.04
Std.(ROA)	-.13	.38	.07
R&D/Assets	.07	.39	-.16
Beta Risk	.02	.30	-.04
Ln(Assets)	.04	-.17	-.41
Eigenvalue	2.35	1.93	1.28

The results indicate that Shareholder Agency Costs basically is an equally weighted average of Lagged ROA, Lagged Market Returns, and Lagged Opportunity Set. Negative

Income also contributes substantially to the factor. Ex-Ante Litigation Risk basically is an equally weighted average of Std.(ROA), R&D/Assets, and Beta Risk. CEO Domination basically is an equally weighted average of CEO on Nominating Committee, CEO Tenure, and Ln(Assets). Generally, the signs and weights of the estimated loadings are consistent with my *a priori* selection of proxies.

Principal components is but one form of factor analysis. As Brown (1989) explains, it has many advantages over other factor analysis techniques including conceptually simpler estimators and a unique factor structure. However, these advantages come at the cost of having certain restrictions placed on the observed covariance matrix of data. To examine the sensitivity of some of these restrictions, several sequential tests were performed. First, to determine the sensitivity of the assumption that the factors are orthogonal, the factors were also rotated obliquely using the SAS Promax option; the factor solutions and the resulting regression results were very similar to the original specification. Second, principal components assumes that the communalities of each variable is equal to one. Using the SAS SMC (squared multiple correlation) option, I allowed each individual variable to have different communalities. Again, the factor loadings and the resulting regression results with the newly scored factors were similar to those reported in this paper. Third, I used an unrestricted least squares (ULS) estimation method as an alternative method to obtain the factor loadings. The solutions with ULS are similar to those using the original principal components. Finally, to check the sample sensitivity of the factors, I estimated separately the coefficients for each year and for random subsets of data. The factors and their coefficients appear to be robust to sample selection.

Evidence of Clustering

The Spearman correlations for the underlying proxies and other independent variables are:

	CEO Ten	Lag Roa	Lag Ret	Lag Opp	Neg inc	Debt	s Roa	R & D	Beta	Log Size	Softw re	Dir Shar es	Inst Shar es	Blck hder	Aud. Vote	% Outs ider
CEO Dom	.23	.15	.03	.18	-.08	-.18	-.01	-.07	.04	-.19	.08	.22	-.07	.07	-.06	-.21
CEO Ten		.16	.16	.14	-.10	-.11	-.11	-.14	-.02	-.12	.11	.25	.00	-.02	-.07	-.20
LagROA			.39	.74	-.33	-.35	-.15	.07	.11	-.15	.03	.16	-.00	.05	-.07	-.25
LagRet				.36	-.22	-.20	-.28	.01	-.09	.04	.06	.02	.01	.01	.04	-.09
LagOpp					-.20	-.39	-.07	.06	.15	-.28	.01	.25	-.04	.10	-.11	-.27
Neginc						.06	.22	.07	.14	-.06	-.02	.03	.02	.05	-.01	.02
Debt							-.17	-.27	-.07	.39	-.10	-.26	-.07	-.01	.07	.16
sROA								.28	.20	-.27	-.01	.13	.12	.00	-.02	.01
R&D									.16	-.06	.07	-.07	.21	-.04	.07	.05
Beta										-.07	-.01	.20	.13	-.01	-.10	-.18
LogSize											-.10	-.53	-.09	-.07	.25	.09
Software												.05	.05	-.02	-.06	-.06
Dir Shares													-.01	.28	-.21	-.40
Inst Shares														-.09	-.09	.11
Blckhder															-.02	.08
Aud.Vote																.14

References

Agrawal, A., and C. R. Knoeber. 1995. Firm performance and mechanisms to control agency problems between managers and shareholders. Working Paper. North Carolina State University.

Aigner, D. J., C. Hsaio, A. Kapteyn, and T. Wansbeek. 1984. Latent variable models in econometrics in *Handbook of Econometrics:* Vol.II. (North-Holland, New York).

Beasley, M. S. 1996. An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review* 71 (October): 443-465.

Berle, A. A., and G. C. Means. *The Modern Corporation and Private Property*. New York, NY: Macmillan, 1932.

Bhagat, S. and B. Black. 1996. Do independent directors matter? Working Paper. University of Colorado and Columbia Law School.

Bradbury, M. 1990. The incentives for voluntary audit committee formation. *Journal of Accounting and Public Policy* 9: 19-36.

Brickley, J. A., J. L. Coles, and G. Jarrell. 1997. Leadership structure: Separating the CEO and Chairman of the Board. *Journal of Corporate Finance* 3: 189-220.

Brown, S. J. 1989. The number of factors in security returns, *Journal of Finance* 44: 1247-1262.

Bull, I., and F. C. Sharp. 1989. Advising clients on Treadway audit committee recommendations. *Journal of Accountancy* (February): 46-52.

Brown, S. J. 1989. The number of factors in security returns. *Journal of Finance* 44: 1247-1262.

Callen, J. L., C. Fader, and I. Krinsky. 1997. Just-in-time and total quality management: A cross-sectional plant analysis. Working Paper. Stern School of Business, New York University.

Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1996. Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research* 13: 1-36.

DeFond, M. L., and J. Jiambalvo. 1991. Incidence and circumstances of accounting errors. *The Accounting Review* 66 (July): 643-655.

Deloitte & Touche. 1994. *Audit Committees - A Pivotal Role*. Deloitte & Touche LLP.

Eichenseher, J. W., and D. Shields. 1985. Corporate director liability and monitoring preferences. *Journal of Accounting and Public Policy* 4: 13-31.

Francis, J., D. Philbrick, and K. Schipper. 1994. Determinants and outcomes in class action securities litigation. Working Paper, University of Chicago.

Gaver, J. J., and K. M. Gaver. 1993. Additional evidence on the association between the investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Accounting and Economics* 16: 125-160.

Gilson, R. J. and R. Kraakman. 1991. Reinventing the outside director: An agenda for institutional investors. *Stanford Law Review* 43 (April: 863-906.

Goldberger, A. S. 1972. Structural equation methods in the social sciences, *Econometrica* 40: 979-1002.

Goldman, A., and B. Barlev. 1974. The auditor-firm conflict of interests: Its implications for independence." *The Accounting Review* (October): 707-718.

Hermalin, B. E., and M. S. Weisbach. 1988. The determinants of board composition. *RAND Journal of Economics* 19 (Winter): 589-606.

Hermalin, B. E., and M. S. Weisbach. 1996. Endogenously chosen boards of directors and their monitoring of the CEO. Working Paper, University of California at Berkeley and University of Arizona.

Ittner, C., D. F. Larcker, and M. V. Rajan. 1997. The choice of performance measures in annual bonus contracts. *Accounting Review* 72: 231-256.

Jensen, M. C., and W. H. Meckling. 1977. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3: 305-360.

Kaznik, R., and B. Lev. 1995. To warn or not to warn: Management disclosures in the face of an earnings surprise. *The Accounting Review* 70 (January): 113-134.

Klein, A. 1998. Firm performance and board committee structure. *Journal of Law and Economics* (April): 135-167.

Kloek, T., and L. B. M. Mennis. 1960. Simultaneous equations estimation based on principal components of predetermined variables. *Econometrica* 28: 45-61.

Knapp, M. C. 1987. An empirical study of audit committee support for auditors involved in technical disputes with client management. *The Accounting Review* 62 (July): 578-588.

Kosnik, R. D. 1987. Greenmail: A study of board performance in corporate governance. A*dministrative Science Quarterly* 32: 163-185.

Marsh, H. L., and T. E. Powell. 1989. The audit committee charter: Rx for fraud prevention. *Journal of Accountancy* (February): 55-57.

Matsumoto, D. A. 1998. Management's incentives to influence analysts' forecasts. Working Paper. University of Washington.

Mautz, R. K., and R. D. Neary. 1979. Corporate audit committee - Quo vadis? *The Journal of Accountancy* (October): 83-88.

Menon, K., and J. D. Williams. 1994. The use of audit committees for monitoring. *Journal of Accounting and Public Policy* 13: 121-139.

Pincas, K., M. Rusbarsky, and J. Wong. 1989. Voluntary formation of corporate audit committees among NASDAQ firms. *Journal of Accounting and Public Policy* 8: 239-265.

Scarbrough, D. P., D. V. Rama, and K. Raghunandan. 1998. Audit committee composition and interaction with internal auditing: Canadian evidence. *Accounting Horizons* 12 (March): 51-62.

Smith, C. W., and R. L. Watts. 1992. The investment opportunity set and corporate financing, dividend and compensation policies. *Journal of Financial Economics* 32: 263-292.

Titman, S., and R. Wessels. 1988. The determinants of capital structure choice. *Journal of Finance* 43: 1-19.

Verschoor, C. C. 1993. Benchmarking the audit committee. *Journal of Accountancy* (September): 59-64.

Vicknair, D., K. Hickman, and K. C. Carnes. 1993. A note on audit committee independence: Evidence from the NYSE on "grey" area directors. *Accounting Horizons* 7 (March): 53-57.

Wild, J. J. 1994. Managerial accountability to shareholders: Audit committees and the explanatory power of earnings for returns. *British Accounting Review* 26: 353-374.

Williams, H. M. 1977. Audit committees - The public sector's view. *The Journal of Accountancy* 144 (September): 71-74.

Yermack, D. 1996. Higher market valuation of companies with a small board of directors. *Journal of Financial Economics* 40: 185-212.

Table 1

Descriptive Data for Audit Committee Composition

	(1) Board as a Whole	(2) Audit Committee
Percentage of Directors who are:		
Insiders	22.5%	1.4%
Outsiders	58.4	79.6
Affiliates	19.1	19.0
Percentage of Firms that Have at Least One Member who is:		
Insider	99.7%	4.8%
CEO	99.0	1.9
Outsider	99.0	97.9
Attorney	18.5	13.4
Investment Banker	13.3	7.5
Commercial Banker	14.4	7.2
CEO of other S&P Firm	47.9	25.0
Retired CEO of other S&P Firm	42.9	25.0
Former CPA	4.0	3.6
Affiliate	85.5	54.3
Attorney	26.1	12.8
Commercial Banker	8.3	3.8
Investment Banker	12.4	4.9
CEO of other S&P Firm	14.1	6.1
Retired CEO of other S&P Firm	8.4	4.5
Relative of CEO	11.3	4.3
Former Employee of Firm	51.5	12.3

Sample is for 771 U.S. firms with audit committees listed on the S&P 500 as of March 31, 1992 and 1993 with annual shareholder meetings between July 1, 1991 and June 30, 1993. Banks, financial institutions, insurance companies and firms with missing Compustat or CRSP data are excluded.

Table 2

Spearman Correlations Between Audit Committee Director-Types, Board Activity and Independent Variables

Independent Variables	%AUDOUT	%AUDINS	%AUDAFF	Meetings
CEO Domination over the Board				
CEO on Nom. Comm.	-.14 (.01)	.14 (.01)	.10 (.01)	-.07 (.04)
CEO Tenure	-.08 (.02)	.01 (.86)	.08 (.02)	-.15 (.01)
Shareholder Agency Costs				
Lagged ROA	-.10 (.01)	.08 (.02)	.09 (.02)	-.10 (.01)
Lagged Ab. Returns	-.03 (.38)	.01 (.69)	.03 (.41)	-.05 (.16)
Lagged Opportunity Set	-.15 (.01)	.14 (.01)	.12 (.01)	-.13 (.01)
Ex-Ante Litigation Risk				
Beta	-.11 (.01)	.06 (.11)	.10 (.01)	.05 (.18)
R&D/Assets	.05 (.18)	.06 (.11)	-.07 (.05)	.10 (.01)
Negative Income Stream	-.02 (.53)	-.02 (.64)	.02 (.52)	-.03 (.42)
Std.(ROA)	-.04 (.30)	.53 (.13)	.02 (.62)	.03 (.44)
Software	.01 (.85)	-.02 (.61)	.00 (.91)	-.04 (.27)
Debtholder Agency Costs				
Debt/Assets	.08 (.03)	-.06 (.08)	-.07 (.04)	.08 (.03)
Competing Corporate Governance Mechanisms				
%Director Shares	-.22 (.01)	.14 (.01)	.20 (.01)	-.21 (.01)
%Institutional Holdings	.03 (.35)	-.07 (.07)	.03 (.39)	-.08 (.02)
Outside Dir. Blockholder	.01 (.85)	-.04 (.24)	.01 (.88)	-.04 (.32)
Auditor Vote	.03 (.41)	-.08 (.02)	-.00 (.98)	.17 (.01)
Agency Costs/Ex-Ante Litigation Costs				
Firm Size (Ln(Assets))	.13 (.01)	-.10 (.01)	-.08 (.04)	.27 (.01)

Spearman correlations and (p-values) are presented.

Definitions of Variables

%AUDOUT is the percentage of outside directors on the audit committee. %AUDINS is the percentage of inside directors on the audit committee. %AUDAFF is the percentage of inside directors on the audit committee. Meetings is a dummy variable equal to one if the audit committee met four or more times during the fiscal year, and zero otherwise.

CEO on Nom. Comm. is a dummy variable equal to one if the CEO is on the board's nominating committee or if there is no standing board nominating committee, and zero otherwise. CEO Tenure is the number of years the CEO has been on the board. Lagged ROA is the 3-year average accounting return on assets ending one year prior to the last fiscal year; Lagged Ab. Returns is the 2-year beta-and-market-adjusted stock return ending one year prior to the last fiscal year; Lagged Opportunity Set is the 3-year average book value of liabilities plus market value of equity over the 3-year average book value of assets; Beta is the beta coefficient of the market model measured 120 days prior to shareholders' annual meeting; R&D/Assets is the 3-year average of research and development expenditures found on the income

statement divided by the 3-year average book value of assets; Negative Income Stream is a dummy variable equal to one if the firm had two or more consecutive negative net earnings ending on the last fiscal year, and zero otherwise. Std(ROA) is the 5-year standard deviation of firm's return on assets prior to last fiscal year; Software is a dummy variable equal to 1 if the firm is in the software industry, and zero otherwise; Debt/Assets is the 3-year average of book value of debt over the 3-year average of book value of assets; %Director Shares is the percentage of shares owned by all directors; %Institutional Holdings is the percentage of shares owned by all financial institutions; Outside Dir. Blockholder is a dummy variable equal to one if an outside director with at least 5% shares sits on the firm's board, and zero otherwise; Auditor Vote is a dummy variable equal to one if shareholders vote to ratify the company's choice of outside auditor at the annual meeting, and zero otherwise; and Ln(Assets) is the natural log of the book value of assets.

Table 3

Logistical Regressions of Audit Composition or Activity

		%AUDOUT		%AUDINS		%AUDAFF		Meetings
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept		.42 (0.80)		.11 (4.01)[a]		1.73 (8.51)[a]		-2.88 (-3.16)[a]
CEO Dominance	-	-.05 (-0.88)	+	.01 (2.13)[b]	?	-.06 (-2.74)[a]	-	-.18 (-1.63)[c]
Shareholder Agency	-	.08 (1.28)	+	.01 (3.55)[a]	?	-.04 (-1.54)	-	-.11 (-1.33)
Debtholder Agency	+	-.33 (-0.89)	-	.02 (1.27)	?	.02 (0.16)	+	.83 (1.45)
Ex-Ante Litigation Risk	+	-.02 (-0.27)	-	.01 (3.94)[a]	?	-.03 (-1.14)	+	.23 (2.41)[b]
Software	+	1.42 (2.31)[b]	-	-.05 (-1.46)	?	.85 (3.72)[a]	+	-.56 (-0.47)
Size of Firm	+	-.07 (-1.20)	-	-.01 (-1.85)[c]	?	-.02 (-1.18)	+	.43 (4.57)[a]
%Director Shares	?	.12 (0.80)	?	-.01 (-0.49)	?	.10 (0.89)	?	-.97 (-1.88)[c]
%Institutional Holdings	?	-.01 (-1.89)[c]	?	-.00 (-1.86)[c]	?	.00 (0.94)	?	-.01 (-2.39)[a]
Outside Dir. Blockholder	?	-.52 (-1.74)[c]	?	-.02 (-1.06)	?	.06 (0.53)	?	.14 (0.30)
Auditor Vote	?	-.31 (-2.53)[a]	?	-.01 (-1.52)	?	.09 (1.98)[b]	?	.48 (2.65)[a]
%Outsiders	+	5.90 (16.30)[a]	-	-.06 (-2.99)[a]	-	-2.31 (-17.20)[a]	+	-.58 (1.11)
Dummy (1992)	?	.08 (0.72)	?	-.01 (-0.49)	?	-.02 (-0.60)	?	.00 (0.02)
R^2		.29		.09		.33		.10
F-Value		24.38[a]		6.65[a]		28.57[a]		9.54[a]

[a] significant at the .01 level
[b] significant at the .05 level
[c] significant at the .10 level

Predicted signs are in columns (1), (3), (5), and (7). Coefficients and (t-statistics) are in columns (2), (4), (6), and (8).

Variable Definitions

%AUDOUT is the percentage of outside directors on the audit committee. %AUDINS is the percentage of inside directors on the audit committee. %AUDAFF is the percentage of inside directors on the audit committee. Meetings is a dummy variable equal to one if the audit committee met four or more times during the fiscal year, and zero otherwise. A logistical transformation using the formula ln((pct./1-pct.)+1) is applied to each percentage. A logit model is used for the regressions on Meetings.

The independent variables, CEO Dominance, Shareholding Agency, and Ex-Ante Litigation Risk are factors derived from a principal components model on ten underlying independent variables; Debtholder Agency is the 3-year average of book value of debt over the 3-year average of book value of assets; Software is a dummy variable equal to 1 if the firm is in the software industry, and zero otherwise; Size of Firm is the natural log of the book value of assets; %Director Shares is the percentage of shares owned by all directors; %Institutional Holdings is the percentage of shares owned by all financial institutions; Outside Dir. Blockholder is a dummy variable equal to one if an outside director with at least 5% shares sits on the firm's board, and zero otherwise; Auditor Vote is a dummy variable equal to one if shareholders vote to ratify the company's choice of outside auditor at the annual meeting, and zero otherwise; %Outsiders is the percentage of outside directors on the board; and Dummy (1992) is a dummy variable equal to one if the proxy date is from July 1, 1991 to June 30, 1992, and zero otherwise.

Table 4

Logit Estimations of Director-Type on Independent Variables

	Former CPA	Outside CEO of other S&P 500 Firm	Outside Retired CEO of other S&P500 Firm	CEO of Firm	Relative of CEO
	(1)	(2)	(3)	(4)	(5)
Intercept	-4.91 (-2.06)	-7.56 (-6.67)[a]	-7.23 (-6.50)[a]	-3.10 (1.10)	-1.52 (0.81)
CEO Dominance	.52 (1.85)[b]	.10 (0.78)	.14 (1.08)	.51 (1.41)	.31 (1.38)
Shareholder Agency	.14 (0.82)	-.00 (-0.05)	-.15 (-1.60)	.76 (2.64)[a]	-.09 (-0.34)
Debtholder Agency	1.23 (1.15)	-.06 (-0.10)	-1.61 (-2.31)[b]	-.93 (-0.45)	-.95 (-0.68)
Ex-Ante Litigation Risk	.33 (1.65)[c]	.15 (1.46)	.21 (1.99)[b]	.12 (0.37)	-.81 (-2.87)[a]
Software	-12.57 (-0.02)	-13.30 (-0.01)	-13.70 (-0.01)	-11.30 (-0.01)	-13.33 (-0.02)
Size of Firm	.08 (0.34)	.42 (4.05)[a]	.48 (4.56)[a]	.07 (0.22)	-.04 (-0.16)
%Director Shares	-.81 (-0.51)	-.49 (-0.70)	.48 (0.87)	1.58 (1.75)[c]	.92 (1.14)
%Institutional Holdings	. 01 (0.85)	.01 (1.77)[c]	.01 (1.11)	-.04 (-1.89)[c]	.01 (1.04)
Outside Dir. Blockholder	-11.53 (-0.03)	-.12 (-0.22)	-.59 (-1.10)	-12.18 (-0.04)	.44 (0.53)
Auditor Vote	.74 (1.45)	.44 (2.12)[b]	-.17 (-0.85)	.20 (0.32)	1.20 (2.61)[a]
%Outsiders	-1.48 (-1.17)	3.18 (4.86)[a]	3.56 (5.38)[a]	.05 (0.03)	-5.49 (-5.28)[a]
Dummy (1992)	-.01 (-0.01)	.29 (1.63)[c]	.31 (0.87)	.33 (0.60)	-.05 (-0.16)
Pseudo-R^2	.01	.08	.07	.05	.06
F-Value	3.80	9.11[a]	8.63[a]	5.89[a]	7.68[a]

[a] significant at the .01 level
[b] significant at the .05 level
[c] significant at the .10 level

Variable Definitions

Former CPA is a dummy variable equal to one if the audit committee contains at least one director who is a retired CPA partner, and zero otherwise; Outside CEO of other S&P 500 Firm is a dummy variable equal to one if the audit committee contains at least director who currently is a CEO of another S&P 500 firm, and zero otherwise; Outside Retired CEO of other S&P 500 Firm is a dummy variable equal to one if the audit committee contains at least one director who is a retired CEO of another S&P 500 firm, and zero otherwise; CEO of Firm is a dummy variable equal to one if the audit committee has the CEO as a member, and zero otherwise; Relative of CEO is a dummy variable equal to one if the audit committee contains at least one director who is related to the CEO, and zero otherwise.

The independent variables, CEO Dominance, Shareholding Agency, and Ex-Ante Litigation Risk are factors derived from a principal components model on ten underlying independent variables; Debtholder Agency is the 3-year average of book value of debt over the 3-year average of book value of assets; Software is a dummy variable equal to 1 if the firm is in the software industry, and zero otherwise; %Director Shares is the percentage of shares owned by all directors; Size of Firm is the natural log of the book value of assets; %Institutional Holdings is the percentage of shares owned by all financial institutions; Outside Dir. Blockholder is a dummy variable equal to one if an outside director with at least 5% shares sits on the firm's board, and zero otherwise; Auditor Vote is a dummy variable equal to one if shareholders vote to ratify the company's choice of outside auditor at the annual meeting, and zero otherwise; %Outsiders is the percentage of outside directors on the board; and Dummy (1992) is a dummy variable equal to one if the proxy date is from July 1, 1991 to June 30, 1992, and zero otherwise.