

**WHOSE INTERNAL AUDIT DEPARTMENT IS IT?
THE IMPACT OF AUDIT COMMITTEE DOMINION ON THE NATURE OF
INTERNAL AUDIT DEPARTMENT ACTIVITIES**

Abstract

The Sarbanes-Oxley Act (SOA 2002) mandates an annual report on a registrant's internal controls and greater audit committee oversight of the financial reporting process. In addition, recently enacted New York Stock Exchange (NYSE) listing rules augment the SOA by requiring the formation of an internal audit (IA) department. However, both sets of regulation are silent on the audit committee's interaction with IA, a key participant in the financial reporting process. In response to these perceived oversights, the Institute of Internal Auditors (IIA) has recommended that internal audit report directly to the audit committee, rather than to upper management. In this paper, we investigate the effect of the IIA's recommendation by examining the impact of audit committee dominion over the IA function on the nature of IA activities. In particular, we hypothesize that audit committees with greater functional authority over internal audit (*vis-à-vis* management) will steer IA focus towards the more traditional IA functions of internal control evaluation and EDP auditing.

To test our hypothesis, we obtain information from 72 Chief Internal Auditors from Fortune 1000 firms regarding the amount of internal audit resources allocated across internal audit activities in 2005. We then construct a composite measure of audit committee 'functional IA authority' contingent upon the relative degree of control that the audit committee has over IA *vis-à-vis* management. Our measure is derived from three key facets of the audit committee-internal audit relationship: reporting duties, termination rights and budgetary control. Consistent with our hypothesis, we document a strong, positive relation between our audit committee functional IA authority variable and the amount of IA resources devoted to internal control evaluation and EDP auditing. In sum, our evidence suggests that the IA function is slowly evolving from the 'eyes and ears of management' to the 'eyes and ears of the audit committee'.

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INTRODUCTION

In an effort to enhance the reliability of the financial reporting process, the Sarbanes-Oxley Act of 2002 (hereafter SOA) places more stringent requirements on audit committee composition and requires greater audit committee financial reporting oversight. The SOA's Section 404 also mandates reporting on a registrant's internal controls. However, the SOA remains silent about internal audit, a key participant in both the financial reporting process and internal control structure. Recently enacted NYSE-listing rules augment the SOA by requiring each registrant to maintain an internal audit function. Nonetheless, both sets of regulation fail to address internal audit's reporting relationship with the audit committee, as well as audit committee duties concerning internal audit resources.

In response to the SOA and NYSE-listing rules, the Institute of Internal Auditors (IIA) issued a commentary on the standards relating to listed company audit committees (IIA 2003a). In it, the IIA states the audit committee should expect internal auditing to examine and evaluate the adequacy and effectiveness of the organization's systems of internal control. To ensure that internal auditors carry out these internal control responsibilities, the audit committee should review and approve internal audit's staffing schedules and financial budgets. By doing so, the audit committee can determine whether there are budgetary limitations that impede the ability of internal audit function in executing its audit plans.¹ In a particularly insightful comment, the IIA recommends the SOA include the following verbiage (IIA 2002b):

“The audit committee...shall oversee or approve the appointment, termination, compensation, and work of the chief internal audit executive.”

¹ Moreover, the IIA recommends that internal audit report directly and solely to the audit committee. In this manner, internal audit independence is enhanced and a more objective evaluation of internal controls can be accomplished (IIA 2002a).

The IIA's commentary represents a departure of sorts from the traditional notion of internal audit as the 'eyes and ears of management.' Many academicians have openly questioned whether the internal audit function can effectively serve two overseers: management and the audit committee (Gray 2004; Anderson 2003; Hermanson and Rittenberg 2003; Hermanson 2002). Management's use of the internal audit function in the pursuit of operational goals and objectives may conflict with the audit committee's demand for internal control evaluation (Anderson 2003). This tension is heightened when the internal audit function must utilize limited resources, most notably in the form of its annual budget and staffing plans (Anderson 2003; Raghunandan et al. 2001).

In this paper, we examine the relative degree of 'internal audit ownership' by audit committees and whether this impacts the nature of internal audit activities. More specifically, we hypothesize that an audit committee's demand for audit quality will direct internal audit resources towards the more traditional, internal-control related IA activities such as internal control evaluation and EDP auditing. However, the extent to which the audit committee can steer the IA function towards internal controls-based activities depends on its functional authority over the IA function.

To address our research questions, we obtained 72 useable survey responses from Fortune 1000 Chief Internal Auditors (CIA) regarding their interactions with audit committees and the allotment of their resources in 2005. We construct our audit committee functional IA authority variable based upon the *relative* amount of IA control that the audit committee possesses vis-à-vis management. Our variable is a continuous one based upon three critical facets of the internal audit/audit committee relationship: reporting lines, termination rights and budgetary control. Note that all three factors can be the sole domain of upper management or the sole domain of the audit committee – thus the need to measure the relative degree of control between these two potentially conflicting IA supervisors. Consistent with our predictions, we

find that the percentage of internal audit budget devoted to internal control based activities is strongly, positively related to our measure of audit committee IA ownership.

The evidence provided herein suggests the IIA's recommendations concerning the audit committee's internal audit budgetary and reporting oversight will likely become more commonplace. It is also consistent with IIA which states that 'companies should be expected to establish and maintain an objective, adequately resourced and competently staffed internal audit function *to provide the audit committee* with ongoing assessments of an organization's...system of internal controls' (IIA 2002a, italics added). Finally, our results suggest that as audit committees begin to expand their oversight of the internal audit function, internal audit will increasingly focus on internal control activities. Such a shift marks a return to the traditional role of internal audit, but rather as the 'eyes and ears of the audit committee', rather than the 'eyes and ears of management'.

Our study contributes to the literature in four distinct ways. First, we extend Carcello et al. (2005) by investigating not only the size of the internal audit budget, but also the *allocation of* internal audit resources. Second, we provide initial post-SOX data regarding the breakdown of IA activities, an area with sparse prior evidence. Interestingly, we find that there remains a significant percentage – in excess of 30% - of internal audit budget allocated to areas not concerned with internal control, namely operational audits and special consulting projects. Third, we provide evidence concerning the impact of the audit committee's functional IA authority on the allocation of IA resources. We believe this to be important as SOX has increased the expectations and responsibility of the audit committee, while further highlighting the importance of internal control per its Section 404. The mean measure of our audit committee 'internal audit ownership' variable is approximately 40%, suggesting that management still retains the majority influence over the IA function. Finally, we create a new, relatively straightforward measure of audit committee functional IA authority. We believe this to be an advancement in the literature

since prior research has generally used dichotomous variables such as whether the audit committee reviews IA's budget. To wit, over 97% of our respondents agreed that the audit committee *reviews* IA's budget², yet fully 40% of respondents did not strongly agree with the statement 'the audit committee sets Internal Audit's budget.'

The remainder of this paper is organized as follows. The next section reviews prior literature and develops our hypotheses. Succeeding sections discuss sample selection, followed by research design and results. Our final section concludes.

PRIOR RESEARCH AND HYPOTHESES DEVELOPMENT

In order to effectively execute their corporate governance duties, audit committees must rely upon the internal audit function (IIA 2003b, 2002a, 2002b; McHugh and Raghunandan 1994). Many corporate governance critics point to a symbiotic relationship between the internal audit function and the audit committee, with effective audit committees heightening the status of internal audit and internal audit aiding audit committees in avoiding financial misstatement (Beasley et al. 2001; McHugh and Raghunandan 1994; Treadway Commission 1987). Using these arguments, Scarborough et al. (1998) find that audit committees consisting solely of non-employee directors were more likely to: (a) have frequent meetings with the chief internal auditor and (b) review the internal auditing program and results of internal auditing. These results are indicative of an audit committee taking actions to ensure the quality of the internal audit function, in the hopes of avoiding financial misstatement (Raghunandan et al. 2001; 1998)

One potential obstacle to internal audit quality is a relative lack of funding (Jefferson Wells 2004; Quarles 1994; Pei and Davis 1989). As internal audit departments are usually cost centers, internal audit departments must perform their duties within a pre-specified budget. Budgetary constraints represent three potential threats to internal audit quality. First, budget shortfalls can result in reduced testing of controls, as well as

² This compares to 59% per Carcello et al. (2005).

reduced geographic audit coverage (Public Oversight Board 2000). Second, the failure to ensure the requisite budgetary resources may reduce the attractiveness of internal audit as a career within the company, leading to turnover of highly-skilled and competent individuals (Jefferson Wells 2004; Hermanson 2002). Third, budget constraints may prevent internal auditors from receiving the necessary training to remain current with new technological, accounting and auditing issues (Jefferson Wells 2004; IIA 2002b). The lack of training may lead to underqualified personnel performing tests of controls. Sensing this tension, the IIA has repeatedly recommended that the audit committee review internal audit's budget to ensure adequate internal audit scope, maintain the career attractiveness of internal audit and provide the necessary training to develop in-house talent (IIA 2003b, 2002a).

Despite the IIA's frequent exhortations, there is scant research on the degree to which the audit committee influences internal audit's budget. The study most closely addressing this issue is Carcello et al. (2005). These authors document a positive relation between audit committees that reviewed internal audit's budget and the size of internal audit's budget. Interestingly, Carcello et al. (2005) find that only 59% of the Chief Internal Auditors surveyed stated that audit committees reviewed internal audit's annual budget. This may be indicative of the audit committee's reluctance to challenge management on the resources allocated to internal audit. In particular, management may endeavor to have internal audit focus on operational audits and other consulting-related 'value-added' services (Gray 2004; Anderson 2003). Moreover, management may be reluctant to grant additional resources to internal control activities that will not necessarily generate immediate cost savings (Anderson 2003). This suggests that there may be conflicts between management and the audit committee concerning not only internal audit's budget, but also internal audit's focus.

In terms of actual internal audit activities, the only study to date that has examined them in detail is Goodwin (2004). Goodwin (2004) contrasts public and private sector internal audit departments in Australia and New Zealand, neither of which is governed by the SOA. Goodwin (2004) documents little differences in the percentage of internal audit budget allocated between various IA activities. Finally, Goodwin (2004) does not consider the impact of the audit committee on the extent and type of internal audit activities.

Hypotheses Development

Abbott and Parker (2000, 2001) posit that audit committees possess a two-factor audit quality demand function. The first factor is reputational capital enhancement/preservation. More specifically, audit committee directors may view the directorate as a means of enhancing their reputations as experts in decision control (Srinivasan 2004; Beasley 1996). Although audit committee service increases the reputational capital of these directors, it may also exacerbate the reputational damage should a financial misstatement occur (Srinivasan 2004). The second audit quality demand factor concerns director liability, which is also a function of the likelihood of financial misstatement. Prior research demonstrates that effective audit committees take steps to heighten audit quality in an effort to reduce the risk of material misstatement (Srinivasan 2004; Abbott and Parker 2000; Carcello and Neal 2000).

One means of reducing the likelihood of restatement is increasing the quality of a firm's internal control structure (McVay and Ge 2005; Krishnan 2005). We posit that there are two ways internal audit can increase the quality of the internal control structure. First, internal audit can devote significant resources to internal control evaluation (IIA 2002a). Second, the pervasiveness of ERP systems in generating financial statements creates a demand for increased reliance on and testing of EDP-related application

controls by internal audit (Hermanson 2005, 2004). However, management may not see the value-added aspect of such activities and divert internal audit focus away from such activities (Gray 2004; Anderson 2003). We hypothesize that an audit committee with significant influence over the IA function will be able to confront management on this issue and demand greater focus on internal control evaluation and EDP auditing. This leads to our hypothesis (stated in alternative form):

H₁: Firms with audit committees having greater authority over the internal audit function will have a greater percentage of internal audit resources devoted to internal control evaluation and EDP auditing.

SAMPLE SELECTION

The survey questionnaire provided in the Appendix was mailed to sample firms consisting of the largest FORTUNE 1,000 companies (in terms of total sales) in the year 2005 per Standard and Poor's Compustat database, after excluding banks.³ Consistent with most prior internal audit research (Carcello et al. 2005; Raghunandan et al. 2001; Scarbrough et al. 1998; Pelfrey and Peacock 1997), our survey was directed to chief internal auditors. The first survey was sent in July 2006.

We have currently received a total of 72 usable responses. Table 1 provides details of the industry membership of the 72 responses, compared to the industry profile of the original population of Fortune 1000 companies. Per Table 1, our sample appears to be fairly representative of the Fortune 1000 population of firms, with a slight overrepresentation of consumer products firms and retailers.

[insert Table 1 here]

³ Consistent with Carcello et al. (2005), banks are excluded since they do not possess inventory, have unique regulatory environments and their data does not fit our regression model well.

RESEARCH DESIGN

We employ a multivariate regression approach similar to that of Carcello et al. (2005), who use an agency-based framework to describe the demand for internal audit services. We augment their regression model with our audit committee IA ownership variable, as well as R&D intensity. R&D intensity may proxy for the degree of knowledge intensity and the need to de-emphasize traditional management control systems (Ditillo 2004). Thus, our regression framework is summarized as follows:

$$(1) \quad \text{IACONT\%} = b_0 + b_1\text{ACIAOWN} + b_2\text{SIZE} + b_3\text{LEVERAGE} + b_4\text{INVINT} + b_5\text{FORSALE} + b_6\text{SALEGROW} + b_7\text{OPCASH} + b_8\text{RDINT} + \varepsilon$$

Where,

IACONT%	=	percentage of total IA budget devoted to internal control. Derived from survey questions #2 and #3.
ACIAOWN	=	relative ownership of internal audit of the audit committee vis-à-vis management (CEO and CFO). Measured by respondents' Likert scale answers to survey questions 6a. – 6c. concerning IA reporting relationship, IA termination rights and IA budgetary influence.
SIZE	=	Natural log of total assets (in millions).
LEVERAGE	=	Ratio of total long-term debt to total assets.
INVINT	=	Ratio of inventory to total assets.
FORSALE	=	Foreign sales as a percentage of total sales.
SALEGROW	=	Three-year rate of sales growth.
OPCASH	=	Operating cash flow scaled by total assets.
RDINT	=	R&D expenditures as a percentage of total sales.

Our research questions endeavors to determine the impact of audit committee IA control over the nature of IA activities. As such, our dependent variable is a composite one based upon the percentage of IA budget (both outsourced and in-house) devoted to controls-based activities. We obtained this information from survey questions #2 and #3, respectively. Included in this figure is the percentage of IA budget allocated to: EDP auditing, internal control evaluation, Section 404 testing, fraud auditing, risk management activities and compliance testing. Excluded from this figure are percentages allocated to special consulting projects, financial statement audits of subsidiaries and assisting the external audit in the financial statement audit.

These excluded activities do not directly address internal controls and may be seen as a means of generating immediate cost savings, especially in terms of assisting the financial statement auditor (Felix et al. 2005).

Our independent variable, ACIAOWN, seeks to determine the *relative* amount of control the audit committee has over the IA function. Thus, it can range from 0 (i.e. no control over the IA function) to 1 (i.e. total control over the IA function). The IA function has two potential overseers: upper management and the audit committee. Within upper management, the IA function can report to either or both the CEO and CFO. Consequently, the first nine statements of survey question #6 asks the CIA to state their level of agreement concerning IA reporting relationships, terminations rights and budgetary control with the audit committee, CFO and CEO, respectively. From these answers, we construct a ratio of the total agreement points of the audit committee, divided by the total agreement points of the audit committee, CFO and CEO. To illustrate, if the CIA answers '5' (i.e. strongly agrees) with the first nine questions/statements in survey question #6, then the audit committee is seen as an equal tri-partner with the CEO and CFO. Our ACIAOWN variable would receive a value of .33, denoting 33% relative ownership of the IA function, vis-à-vis management. If however, the CIA strongly disagrees with any relationship with the CEO/CFO, while strongly agreeing with all audit committee relationships, our ACIAOWN variable receives a value of 1, denoting full IA control on the part of the audit committee.⁴

Consistent with Carcello et al. (2005), our control variables are generally agency-based, as an increase in agency costs necessitates greater monitoring costs. We posit that IA focus on controls is consistent with its traditional role as a monitoring functioning and in ensuring the efficacy of the management control systems. Consequently, we predict a positive relation between our agency cost proxies, size and leverage, and our dependent variable. The need for

⁴ We subtract 1 from all responses, so that if the CIA strongly disagrees with a statement (i.e. indicates '1'), the agreement point for that question equals zero.

better monitoring increases with firm complexity (Carcello et al. 2005), and we expect a positive relation between our proxy for firm complexity, INVINT, and our dependent variable. In a related note, as a firm becomes more de-centralized, there is a concomitant demand for management control systems that utilize accounting-based information (Ditello 2004). As such, we expect a positive coefficient estimate for our FORSALE variable. Beasley (1996) posits that firms experiencing rapid growth rates may experience deterioration in controls. This would suggest a positive relation between our growth proxy, SALEGROW, and our dependent variable. The desire for cost savings (and focus away from internal control on the part of IA) is proxied with OPCASH. Consistent with Carcello et al. (2005), we expect a positive coefficient estimate for this variable. Finally, Ditello (2004) notes that excessive emphasis on management control systems may have a deleterious effect on innovation. Consequently, for knowledge-intensive firms, de-emphasis on internal controls may be optimal and thus we expect a negative coefficient estimate for this variable.

RESULTS

Table 2 presents descriptive statistics for our 72 firms. We find a significant percentage of IA budgets being allocated to non-internal control activities, with a mean (median) IACONT% of 66.56% (69%). However, this suggests that even in the post-SOA environment, IA departments are still allocating significant amount of time and money on non-internal control activities. Our test variable, ACIAOWN, shows considerable variation, with a mean (median) value of 0.4510 (0.4347). This suggests that the audit committee is still generally seen as an equal partner with upper management when using the IA department. Perhaps surprisingly, we find that for lower 25% of our firms, the audit committee has relatively little influence over the IA function with a value of 0.254. On the other hand, the upper 25% of our firms suggest that the audit committee has a commanding presence over the IA function, with the 75th percentile value of ACIAOWN equaling 0.65.

In terms of our other control variables, we note that our firms, by design, are very large and, not surprisingly, profitable. In particular, the mean (median) total assets is \$18.14 billion (\$7.170 billion), whereas operating cash flows, on average, represent 10.34% of total assets. Given their Fortune 1000 status, it is also not surprising to see the degree of globalization amongst our sample firms, with a mean (median) FORSALE value of 13.8% (15%).

Table 3 presents our univariate tests based upon those IA departments with IACONT% greater (less than) the median value of 69%. We document a very pronounced, statistically significant difference in our ACIAOWN variable. For those IA departments spending more time on internal control, the ACIAOWN value equals 0.5589 (suggesting the audit committee has slightly more influence over the IA function than upper management). This compares to a ACIAOWN value of 0.268 (suggesting a limited IA oversight role on the part of the audit committee) for IA departments spending less than the median time on control activities. This provides univariate support for our hypothesis. We also document statistically significant univariate differences for our SIZE, LEVERAGE, INVINT, RDINT and SALEGROW variables. We fail to document statistically significant differences in our OPCASH and FORSALE variables, however.

Table 4 presents our multivariate, regression results. Our coefficient estimate on our test variable, ACIAOWN, is positive and highly significant, suggesting that audit committees with greater influence over the IA function are able to direct IA resources towards internal control activities. Consistent with Carcello et al. (2005), we document positive, statistically significant coefficient estimates on our SIZE, LEVERAGE and INVINT. In keeping with our univariate results, we document a statistically significant, negative (positive) coefficient estimate on our RDINT (SALEGROW) variable. The overall r-squared of our regression model is .5676, suggesting a good model fit.

We also conducted our regression based upon only in-house IA hours. The rationale behind this is a heavy concentration of outsourced IA hours on internal control activities. More specifically, the mean (median) IACONT% value for outsourced-provided hours was 86% (85%). This is not surprising given that outsourcing providers generally are not employed to perform special consulting projects, nor assistance with the financial statement audit (Gray 2004). Our results are qualitatively the same as those reported in Table 5. It should be noted, however, that the percentage of outsourced IA hours was generally very small. On average, outsourced IA hours represented approximately 17% of the overall IA hours. However, for the median firm, outsourced IA hours represented slightly less than 12% of total IA hours. We also redefined our IACONT% variable to include hours allocated to assisting the external auditor with the financial statement audit. Our results also remained qualitatively unchanged.

CONCLUSION

The purpose of this paper was to examine audit committee dominion over the internal audit function and the impact of this dominion on the nature of internal audit activities. Motivation for this paper is threefold. First, the SOA and NYSE-listing rules fail to explicitly delineate audit committee duties regarding internal audit, which triggered IIA commentary on these regulations. Second, there is little prior research on both the nature of IA activities and the degree of IA-audit committee interaction *vis-à-vis management*. In particular, prior research has virtually ignored the potentially competing claims on IA resources between management and the audit committee. Finally, there is little evidence concerning how the audit committee has shaped the nature of internal audit activities, despite increased regulatory calls to strengthen the relationship between internal audit and the audit committee.

Our results based upon survey responses from 72 chief internal auditors suggest that audit committees with greater control over the IA function are able to influence the nature of IA

activities. Audit committees seeking to reduce their litigation exposure are utilizing the IA function to achieve this objective. Nonetheless, we noted that audit committees are still viewed as slightly-less-than-equal partner with upper management. Moreover, the low ACIAOWN values for the bottom 25% of our sample firms suggests significant room for improvement in terms of the stature of the audit committee in its dealings with the IA function. This also validates the IIA's recommendations concerning audit committee internal audit termination/hiring rights and budgetary controls.

The evidence provided herein indicates that the IIA's audit committee recommendations may become de facto phenomena. In other words, our results suggest that audit committees are slowly evolving take a greater role in their interactions with internal audit. Our results also suggest that an audit committee's demand for better internal controls may compel internal audit to return to its focus on internal control evaluations. This is consistent with positions held by Gray (2004), Hermanson (2002) and Hermanson and Rittenberg (2003). Our evidence points to increased audit committee participation in internal audit activities in the future and a correspondingly increased internal audit focus on internal controls.

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Table 1
Sample Selection Results

Focus Industry	Related Two-Digit SIC Codes	# of sample firms	% of sample	# of Fortune 1000 firms*	% of Fortune 1000 firms*
Construction	15 – 17	0	0.0	23	2.9
Consumer product & food	20 – 33	18	25.0	174	21.7
Energy	10 – 14, 46, 49	6	8.3	122	15.2
Financial Services	60 – 64, 67	4	5.6	62	7.7
Information & Communication	48, 73, 78, 79, 84	6	8.3	84	10.5
Manufacturing	34 – 39	13	18.1	135	16.8
Personal services & healthcare	72, 80, 83	1	1.4	15	1.8
Professional, commercial services, education	75, 76, 82, 87, 89	7	9.7	12	14.9
Real Estate	65, 70	0	0.0	4	0.0
Retail & Wholesale	50 – 59	16	22.2	142	17.7
Transportation	40- 42, 44, 45, 47	1	1.4	30	3.8
All other	1, 2, 7, 8, 99	0	0.0	0	0.0
Totals		72	100	803	100

* Fortune 1000 firms that are banks are excluded from both the population and the sample as these firms face additional regulation unique to their industry and do not have significant inventory accounts (making the model unfit for regression purposes). The remaining 803 non-bank Fortune 1000 firms act as our sampling population.

Table 2
Descriptive Data

Variable Name	Mean	Median	25th %	75th %
IACONT%	0.665	0.691	0.173	0.734
ACIAOWN	0.451	0.434	0.254	0.655
ASSETS (billions\$)	18.140	7.170	3.164	14.980
LEVERAGE	0.193	0.199	0.027	0.319
INVINT	0.144	0.111	0.038	0.186
FORSALE	0.138	0.150	0.065	0.186
SALEGROW	22.222	24.552	15.791	73.592
OPCASH	0.103	0.098	0.051	0.143
RDINT	0.014	0.000	0.000	0.056

LEGEND:

- IACONT% = percentage of total IA budget devoted to internal control. Derived from survey questions #2 and #3.
- ACIAOWN = relative ownership of internal audit of the audit committee vis-à-vis management (CEO and CFO). Measured by respondents' Likert scale answers to survey questions 6a. – 6c. concerning IA reporting relationship, IA termination rights and IA budgetary influence with the audit committee. Scaled by total Likert scale answers to all nine statements concerning internal audit's relationship with the CEO/CFO and audit committee.
- ASSETS = Total assets (in billions).
- LEVERAGE = Ratio of total long-term debt to total assets.
- INVINT = Ratio of inventory to total assets.
- FORSALE = Foreign sales as a percentage of total sales.
- SALEGROW = Three-year rate of sales growth (in percentages).
- OPCASH = Operating cash flow scaled by total assets.
- RDINT = R&D expenditures as a percentage of total sales.

Table 3
Univariate Comparisons

Variable Name	Firms above INCONT% median	Firms above INCONT% median	Difference in means	Mann- Whitney statistic
ACIAOWN	0.559	0.268	0.291	11.619***
ASSETS	24.764	12.125	12.639	6.045**
LEVERAGE	0.262	0.118	0.144	5.364**
INVINT	0.178	0.095	0.083	7.446**
FORSALE	0.169	0.129	0.040	0.895
SALEGROW	0.301	0.145	0.156	8.331***
OPCASH	0.132	0.076	0.056	10.058***
RDINT	0.009	0.028	-0.019	6.778**

*, **, *** = p-value < .10, .05, .01, respectively.

LEGEND:

- IACONT%** = percentage of total IA budget devoted to internal control. Derived from survey questions #2 and #3.
ACIAOWN = relative ownership of internal audit of the audit committee vis-à-vis management (CEO and CFO). Measured by respondents' Likert scale answers to survey questions 6a. – 6c. concerning IA reporting relationship, IA termination rights and IA budgetary influence with the audit committee. Scaled by total Likert scale answers to all nine statements concerning internal audit's relationship with the CEO/CFO and audit committee.
ASSETS = Total assets (in billions).
LEVERAGE = Ratio of total long-term debt to total assets.
INVINT = Ratio of inventory to total assets.
FORSALE = Foreign sales as a percentage of total sales.
SALEGROW = Three-year rate of sales growth.
OPCASH = Operating cash flow scaled by total assets.
RDINT = R&D expenditures as a percentage of total sales.

Table 4
Logistic Regression Results

$$IACONT\% = b_0 + b_1ACIAOWN + b_2SIZE + b_3LEVERAGE + b_4INVINT + b_5FORSALE + b_6SALEGROW + b_7OPCASH + b_8RDINT + \varepsilon$$

Independent Variable	Expected Sign	Coefficient Estimate	T-Statistic
Intercept		-0.998	-1.806*
ACIAOWN	+	1.266	7.321***
SIZE	+	0.084	1.889**
LEVERAGE	+	0.639	2.003**
INVINT	+	1.175	2.809***
FORSALE	+	-0.197	-0.649
SALEGROW	+	0.002	1.997**
OPCASH	+	-0.063	-0.911
RDINT	-	-0.619	-2.252***
Observations		72	
R ²		0.5675	

Significance levels (one-tailed if in predicted direction):

*, **, *** = p-value < .10, .05, .01, respectively.

LEGEND:

- IACONT% = percentage of total IA budget devoted to internal control. Derived from survey questions #2 and #3.
- ACIAOWN = relative ownership of internal audit of the audit committee vis-à-vis management (CEO and CFO). Measured by respondents' Likert scale answers to survey questions 6a. – 6c. concerning IA reporting relationship, IA termination rights and IA budgetary influence with the audit committee. Scaled by total Likert scale answers to all nine statements concerning internal audit's relationship with the CEO/CFO and audit committee.
- SIZE = Natural log of total assets (in millions).
- LEVERAGE = Ratio of total long-term debt to total assets.
- INVINT = Ratio of inventory to total assets.
- FORSALE = Foreign sales as a percentage of total sales.
- SALEGROW = Three-year rate of sales growth.
- OPCASH = Operating cash flow scaled by total assets.
- RDINT = R&D expenditures as a percentage of total sale

APPENDIX

Dear Sir or Madam:

We are conducting a brief survey to obtain data about the determinants of Section 404 fees, as well as the relationship between internal audit and the audit committee. Your insight is vital to this project, so please take a few minutes to complete the survey and return it in the self-addressed envelope enclosed. *Please be assured that all responses will be strictly confidential, and no company or individual will be specifically identified. If you would like a copy of our findings, please include an e-mail and/or mailing address. Thank you for your time and cooperation on this survey.*

1. During fiscal 2005, approximately how many hours were devoted to internal audit services by:
 OUTSIDE SERVICE PROVIDERS (OSPs) _____ hours INTERNAL PROVIDERS _____ hours

2. Of the total internal audit hours provided by **the outside service provider(s) as indicated in question 1**, please give the approximate percentage distribution of activities (please note that the percentages should add to 100%):

Activity Description	% of hours	Activity Description	% of hours
Financial statement audits of subsidiaries		EDP auditing	
Special consulting projects		Internal control evaluation	
Compliance auditing		Section 404-related work	
Risk management activities		Fraud audits	
Assisting external auditor in financial statement audit		Other (explain)	

3. Of the total internal audit hours provided by the in-house internal audit department during 2005 per question 1, please give the approximate percentage distribution of activities (please note the percentages should add to 100%):

Activity Description	% of hours	Activity Description	% of hours
Financial statement audits of subsidiaries		EDP Auditing	
Special consulting projects		Internal control evaluation	
Compliance auditing		Section 404-related work	
Risk Management Activities		Fraud Audits	
Assisting external auditor in financial statement audit		Self-assessment programs/ Other (explain)	

4. Please indicate the total 2005 internal audit-related expenditures for:
 OUTSIDE SERVICE PROVIDERS \$ _____ IN-HOUSE INTERNAL AUDIT \$ _____

5. What best describes the relationship between the internal audit department and the external auditor?
 (please circle one of the four boxes)

<p>COEXISTENCE (key features of this environment):</p> <ul style="list-style-type: none"> internal and external auditors pursue separate missions risk analysis, audit planning, and audit plan execution are developed and performed independently by the internal and external auditors 	<p>COORDINATION (key features of this environment):</p> <ul style="list-style-type: none"> some attempts are made to coordinate audit plans internal and external auditors independently develop but share information on risk analysis
<p>INTEGRATION (key features of this environment):</p> <ul style="list-style-type: none"> internal and external auditors share risk models and audit plans extensive joint auditing 	<p>PARTNERING (key features of this environment):</p> <ul style="list-style-type: none"> internal and external auditors define corporate audit needs and meet those needs through a joint effort internal and external auditors have a shared mission

6. Please indicate your level of agreement with the following statements:
(1= strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree)

Statement	Level of agreement (circle one number)
Internal audit reports to the Audit Committee	1 2 3 4 5
Internal audit reports to the Chief Financial Officer (CFO)	1 2 3 4 5
Internal audit reports to the Chief Executive Officer (CEO)	1 2 3 4 5
The Audit Committee has authorization to terminate the Chief Internal Auditor	1 2 3 4 5
The CFO has authorization to terminate the Chief Internal Auditor	1 2 3 4 5
The CEO has authorization to terminate the Chief Internal Auditor	1 2 3 4 5
The Audit Committee determines Internal Audit's annual budget	1 2 3 4 5
The CFO determines Internal Audit's annual budget	1 2 3 4 5
The CEO determines Internal Audit's annual budget	1 2 3 4 5
The Audit Committee reviews Internal Audit's annual budget	1 2 3 4 5
The audit committee urges internal audit to perform work which could be used by external auditors in the financial statement audit	1 2 3 4 5
The audit committee urges internal audit to perform work which could be used by external auditors in Section 404 testing	1 2 3 4 5
The CEO/CFO urges internal audit to perform work which could be used by external auditors in the financial statement audit	1 2 3 4 5
The CEO/CFO urges internal audit to perform work which could be used by external auditors in Section 404 testing	1 2 3 4 5
Internal Audit did <u>not</u> have time available at the end of the year to provide assistance to the external auditors during the 2005 financial statement audit.	1 2 3 4 5
Internal Audit did <u>not</u> have time available during the year to provide assistance to the external auditors during the 2005 Section 404 testing	1 2 3 4 5
Internal Audit was willing to assist the External Auditors in their completion of the 2005 annual financial statement audit.	1 2 3 4 5
Internal Audit was willing to assist the External Auditors in Section 404 testing	1 2 3 4 5
Internal Audit perceived that the work it performed during 2005 could have been used by the external auditors as part of the 2005 financial statement audit.	1 2 3 4 5
Internal Audit perceived that the work it performed during 2005 could have been used by the external auditors as part of the 2005 Section 404 testing	1 2 3 4 5

8. Please indicate the total Section 404-related fees paid to your external auditor in 2005. \$ _____
9. Is internal audit used as a training ground for future management positions? Yes ___ No ___
10. Reliance on controls during the 2005 financial statement audit was: High ___ Moderate ___ Low ___ Unknown ___
11. What is the overall level of inherent risk at your company? High ___ Moderate ___ Low ___ Unknown ___
12. For the 2005 financial statement audit and Section 404 testing, please use the scale provided below to indicate the percentage of audit work related to the financial statement audit and Section 404 that was completed by the internal auditors. For example, if you circle 50% for the financial statement audit portion, you are indicating that the internal audit department performed 50% of the work necessary to complete the financial statement audit.

Area	Scale of Contribution (0% = no work performed; 100% all necessary work performed)
Financial Statement Audit	
Section 404 testing	