

Audit Committee Effectiveness and Internal Audit Outsourcing

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Abstract

Outsourcing of the internal audit function to the external auditor has been a controversial issue. Recently the Sarbanes-Oxley Act (SOA 2002) has prohibited the outsourcing of *any* internal audit functions to the financial statement auditor due to independence concerns. The Sarbanes-Oxley Act also requires the audit committee consider the impact of non-audit services – including services similar to internal audit outsourcing - on external auditor independence. In this paper, we examine the association between audit committee effectiveness and internal audit outsourcing. Data obtained from a survey of 219 Chief Internal Auditors and from relevant proxy statements filed in 2001 (prior to legislative restrictions) indicate that companies with effective audit committees are less likely to outsource internal auditing to the external auditor. Effective audit committees which also have authority over the chief internal auditors' dismissals have an incrementally negative relation with the extent of outsourcing.

Our results are sensitive to the specification of internal audit outsourcing. In particular, non-recurring, outsourced internal audit activities such as special projects and EDP consulting were not negatively related to audit committee effectiveness. We interpret these initial findings as supportive of an effective audit committee's ability to optimally monitor the sourcing of the firm's *total* (i.e. internal and external) audit coverage, while simultaneously ensuring auditor independence. Our survey findings further suggest that the total ban imposed by the SOA on outsourcing of internal audit to the external auditor may lessen the cost-effectiveness and extent of overall audit coverage for some firms.

1. Introduction

Outsourcing the internal audit function - and particularly the use of external auditors to accomplish such functions - has been one of the more contentious issues facing the accounting profession in recent years. For example, Acciani (1995) argues that outsourcing should be outlawed as it presents a conflict of interest for the external auditor and impairs the quality of a firm's internal control structure. Such concerns were echoed by the recently enacted Sarbanes-Oxley Act, which proscribes outsourcing *of any internal audit functions to the external auditor*.

However, several studies cite the benefits of outsourcing. Verschoor (1992) lists seven advantages to the practice, including a reduction in redundant audit procedures, scheduling flexibility and cost savings. External auditors have economies of scale that allow them to specialize in certain areas such as EDP auditing and other consulting projects. Such expertise would be difficult and cost prohibitive to replicate in-house for smaller internal audit departments. Moreover, using a vendor unfamiliar with the company's culture creates inefficiencies in the production of such services, as well as increasing coordination efforts on the part of the chief internal auditor.

Prior research examining the outsourcing decision generally finds the two most prevalent motivations for outsourcing are cost savings and expertise on the part of the external auditors (Petraik 1997; Pelfrey and Peacock 1995). Interestingly, prior research also finds that *retention* of the existing internal audit department for some functions, or 'cosourcing', is also related to management's desire to reduce costs and increase internal control effectiveness (Petraik 1997; Pelfrey and Peacock 1995). While the results of previous research remains mixed, these studies generally assume the outsourcing decision

is solely that of upper management. A relatively unexplored stakeholder in the outsourcing decision is the audit committee. The purpose of this paper is to examine whether audit committees can influence the outsourcing decision in a large-scale sample setting.

Although it might appear the audit committee would have little influence in or concern over the outsourcing decision, there are three reasons why the audit committee is likely to interest itself in the outsourcing issue. First, if an audit committee is comprised entirely of outside directors, these directors usually develop reputations as experts in decision control (Fama and Jensen 1983). Any litigation or SEC investigation resulting from financial statement errors or omissions threatens the reputational capital developed by these directors. Consequently, a change in *any* component of the internal control structure, which is a critical element in the production of the financial statements, is of concern to the audit committee. Second, as the Treadway Commission (1987) asserts, the internal audit function assists the audit committee in discharging its oversight responsibilities. Accordingly, changes to the composition and identity of the internal audit function or in the overall scope of the audit function affect the audit committee's ability to perform its duties.

Finally, outsourcing the internal audit function to the external auditor may represent a conflict of interest for the external auditor. The Treadway Commission (1987), the Public Oversight Board (POB 1993) and the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (BRC 1999) have all expressed concerns regarding the impact of outsourcing on external auditor independence. In November 2000, the SEC auditor independence rules prohibited any

outsourcing to the external auditor in excess of 40% of the internal audit function's budget. In July 2002, the Sarbanes-Oxley Act expanded upon the auditor independence rules and proscribed *all* internal audit outsourcing to the external auditor. Given these three reasons, audit committees - whose primary functions include ensuring the independence of the external *and* internal auditors – are likely to be impacted by the outsourcing decision.

As discussed above, outsourcing impacts the internal and external audit functions, and, in so doing, also impacts the audit committee. However, many corporate governance critics suggest that audit committees are often unwilling or unable to influence managerial decisions concerning the internal and external audit functions. Accordingly, we hypothesize that *effective* audit committees – i.e. those committees which are independent, meet frequently and include at least one expert in financial accounting will influence the outsourcing decision. More specifically, we predict a negative association between audit committee effectiveness and the outsourcing of internal audit functions that most directly impact external and internal auditor independence and/or audit quality.

To address our research question, we obtained 219 useable survey responses from Fortune 1000, publicly-held companies concerning the degree of internal audit outsourcing in 2000 – the year *before* the SEC's mandated 40% ceiling became effective, and 2 years prior to the SOA restrictions. We then construct an audit committee effectiveness variable by examining the corresponding fiscal year 2000 proxy statement for information on audit committee composition, financial expertise and activity. Consistent with our predictions, we find that effective audit committees are negatively

associated with the outsourcing of certain internal audit functions that are likely to most negatively affect external and internal auditor independence (e.g. routine internal audit functions and financial statement audits of subsidiaries). However, non-recurring, outsourced internal audit activities such as special projects and EDP consulting were *not* negatively related to audit committee effectiveness. We interpret these initial findings as supportive of an effective audit committee's ability to optimally monitor the sourcing of the firm's *total* (i.e. internal and external) audit coverage, while simultaneously ensuring auditor independence.

We also examined disclosed audit committee responsibilities to ascertain which committees had sole or joint authority over the employment of the chief internal auditor. Disclosed employment authority is indicative of higher institutional influence for the internal audit function and greater interest in internal audit by the committee.

The paper contributes to our understanding of audit committees and their ability to influence and monitor the total audit coverage of the firm. These results complement those of Scarborough et al. (1998), who find that audit committees comprised solely of outside directors actively monitor and utilize the internal audit function. Our study also provides recent evidence concerning the degree of internal audit outsourcing, what functions are being outsourced, as well as the preferred outsourcing vendor (current external auditor versus other outside parties). We consider this extremely topical descriptive evidence, given that the SEC's outsourcing deliberations were primarily based upon data gathered in the early 1990's – well before the recent rise in outsourcing pervasiveness (Weil 2001).

The remainder of this paper is structured as follows: section two reviews prior literature, section three develops the hypotheses, section four discusses sample selection methodology, section five presents research design and results and section six concludes.

2. Previous Literature

2.1 The Internal Audit Outsourcing Decision

Previous research has identified several motivations for outsourcing internal audit activities. Petravik (1997) describes three factors important to outsourcers: the reduction of redundant audit work, resulting in external audit cost savings; the professional liability insurance of the external auditor; and the prestige of the external auditor. Pelfrey and Peacock (1995) posit that outsourcing internal audit projects may actually improve the quality of the audit because companies can employ external individuals with advanced degrees and technological specialization to provide the required services. Pelfrey and Peacock (1995) also document that when outsourcing takes place, the most likely candidates are EDP auditing and/or operating systems design. However, both studies note that the outsourcing of an entire, existing internal audit department is relatively rare. In addition, Petravik (1997) finds that only 35% of fully outsourced internal audit functions involved replacing an existing internal audit department, whereas 65% of outsourced internal audit departments were actually the formation of an internal audit function where one had yet to exist. Pelfrey and Peacock (1995) find that only 45% of any outsourcing decisions actually lead to the dismissal of *any* internal auditor staff.

The results of Pelfrey and Peacock (1995) and Petravik (1997) suggest the majority of outsourcing is actually non-recurring, special consulting projects or the formation of a new internal audit function using the external auditor. Moreover, Pelfrey

and Peacock (1995) (who explore neither the degree of outsourcing involved nor its relation to the audit committee's composition) note that only a surprisingly small percentage (24%) of outsourcing decisions involved the audit committee. However, non-recurring, special consulting projects are unlikely to threaten the external auditor's independence, impair a firm's internal control structure or reduce overall audit quality.¹ On the other hand, outsourcing *existing internal audit department operations* may have larger economic consequences (i.e. cost savings) and is more likely to be of concern to audit committee members, external and internal auditors.

The most rigorous outsourcing study to date is Widener and Selto (1999). In it, the authors document the relation between firm-level characteristics and the degree of outsourcing of existing internal audit operations. Widener and Selto (1999) find statistically negative relations between the degree of outsourcing and proxies for asset specificity. However, Widener and Selto (1999) do not consider the role of the audit committee in their analyses. A review of the prior outsourcing literature reveals a paucity of evidence regarding the audit committee's role in the outsourcing decision. In the following three sections, we develop an effective audit committee's role in the outsourcing decision.

2.2 *The Impact of Audit Committee Effectiveness on the Execution of Committee Duties*

Although the Treadway Commission (1987), COSO (1992), the BRC (1999) and the Sarbanes-Oxley Act (2002) have detailed specific audit committee duties, research

¹ Emby and Davidson (1998) document how different management advisory service engagements impact external auditor independence. In an experimental setting, the authors find that *recurring* engagement

about those activities has only recently emerged. Regarding the scope and nature of audit committee activities, Urbancic (1996) examines audit committee reports contained in annual proxy statements. He finds that 89% of these reports stated the audit committee discussed both the audit scope and plans with the internal and external auditor; 78% stated the audit committee reviewed the adequacy of the firm's internal control structure; and, 96% stated the audit committee selects and decides to retain the external auditor. The findings of Urbancic (1998) suggest a prominent audit committee role in the outsourcing decision.

While the evidence provided by Urbancic (1998) suggests the *potential* for audit committee influence in the outsourcing decision, it should be noted that all publicly-held companies must maintain an audit committee. Given such a requirement, recent research has examined whether certain audit committee characteristics impact the execution of audit committee functions. DeZoort et al. (2002), note that researchers generally utilize three constructs in investigating the impact of audit committee characteristics on the execution of audit committee duties: audit committee independence, expertise and diligence. Audit committee independence and diligence proxy for the committee's *willingness* to perform its duties, whereas audit committee expertise is posited to impact the committee's *ability* to perform its governance role.

Independent audit committee directors have been theorized to be more objective in their discharge of their duties since such members do not have economic and/or psychological ties to management, making them more willing to confront management about a variety of issues (Carcello and Neal 2003, 2000; Abbott et al. 2003a, 2003b;

contracts undercuts external auditor independence, whereas transactional, non-recurring engagements have no effect on external auditor independence.

Abbott and Parker 2000). Audit committee diligence – often measured in terms of the number of committee meetings during the year – is a signal of the committee’s desire to execute its duties (Kalbers and Fogarty 1993; Menon and Williams 1994). Finally, audit committee financial expertise aids the committee in understanding its audit risks, as well as in communicating with the internal and external audit functions regarding internal control weaknesses and audit coverage (Maines et al. 2001; DeZoort and Salterio 2001).

Recent studies have investigated the role of audit committee characteristics such as independence, diligence and expertise in the performance of committee duties. With respect to the committee’s duty to select and retain the external auditor, Abbott and Parker (2000) find that audit committees comprised entirely of independent, outside directors that meet at least twice annually are positively related to the employment of an industry specialist external auditor.² With regards to the audit committee’s review of the internal control structure, Raghunandan et al. (1998) find that audit committees that meet at least four times annually – a common audit committee diligence proxy - were more likely to review and approve internal audit’s plans and budgets.³ Finally, with respect to audit scope, Abbott et al. (2003) find that audit committees possessing at least one member with financial expertise were more likely to have greater external audit scope (as proxied for by external audit fees). Note that all of these studies are consistent with certain audit committee characteristics being associated with an increase in audit quality – be it internal or external.

² Abbott and Parker (2001) document a similar relation between audit committee independence and activity and a switch to a higher quality external auditor.

³ These authors also find that audit committees that met at least four times annually were more likely to be perceived as being knowledgeable about accounting and audit issues.

In sum, the prior theoretical and empirical studies provide three implications for our study. First, audit committees are likely to be impacted by outsourcing. Second, certain audit committee characteristics critically impact the execution of committee duties – and, in turn, audit committee effectiveness. Third, effective audit committees comprised of independent, diligent and capable members exhibit a demand for audit quality.

2.3 Outsourcing and the External Auditor

The impact of outsourcing on external auditor independence has been a concern for the Treadway Commission (1987), COSO (1992), the BRC (1999) and the Sarbanes-Oxley Act. Underscoring these concerns is a belief that an external auditor's willingness to disagree with management on financial reporting and internal control issues varies inversely with the percentage of revenues derived from a single client (DeAngelo 1981; Haynes et al. 1998; Emby and Davidson 1998).⁴ Concerns that non-audit services – including internal audit outsourcing - create economic incentives that may “inappropriately influence the audit” (SEC 2000), prompted new rules that restricted the amount of internal audit outsourcing to 40% of the internal audit budget effective for fiscal years 2001 and after. The Enron debacle hastened the passage of the SOA, which ultimately banned the outsourcing of any internal audit functions to the external auditor.

During the SEC's internal audit outsourcing deliberations, a second objection was raised by the SEC. The SEC was concerned that if the external auditor also performed internal audits, then the benefits of having a second set of eyes would be lost. The

⁴ During the 1994 AICPA Annual Conference on Banking, Walter Schuetze, then chief accountant of the SEC, flatly stated ‘...external auditor independence may be impaired by performing internal audit outsourcing activities...’ (Matos 1997).

Commission stated ‘...if the accounting firm provides both the internal and external audit, it may, in effect, be auditing its own work. In this situation, the firm cannot, in our view, provide a truly independent, second opinion...’

In conclusion, the negative impact of outsourcing on *perceived external auditor independence* provides motivation on the part of audit committees to monitor the degree of internal audit outsourcing, independent of regulatory restrictions (Abbott et al. 2003b).

2.4 The Audit Committee and the Internal Audit Function

In 1987, the Treadway Commission deemed the audit committee a vital cog in a firm’s control environment and corporate governance structure. The Commission also noted that the internal auditing function and the audit committee, together with internal accounting controls, “comprise the internal controls that can prevent and detect fraudulent financial reporting.” In response to the Treadway Commission’s recommendations, the IIA’s issued “Improving Audit Committee Performance: What Works Best.” In it, the IIA states: “the goals of audit committees and internal auditing are closely intertwined, and the ability of the audit committee and internal auditing to work together significantly impacts the effectiveness of the audit committee in fulfilling its responsibility to the board of directors, shareholders and outside parties” (IIA1993b)

The Treadway Commission and IIA recommendations suggest a symbiotic relationship between an independent audit committee and the internal audit function. Echoing the arguments of the Treadway Commission, Raghunandan and McHugh (1994) contend that internal audit effectiveness is a function of independence and objectivity. Using the IIA’s Standards for the Professional Practice of Internal Auditing (IIA 1993a)

as their benchmark, the authors posit that internal audit objectivity, independence and organizational status are enhanced when internal audit reports directly to the board of directors. The Treadway Commission (1987), in particular, suggests that internal audit report directly to the audit committee and that the audit committee retain the authority to hire or dismiss the chief internal auditor.⁵ In this way, internal audit department independence and objectivity are preserved.⁶ However, should the audit committee contain members of management or directors affiliated with management, this significantly undermines not only the independence of the audit committee, but also the independence and objectivity – i.e. the quality - of the internal audit function (Wallace and Kreutzfeldt 1991).

Recent research affirms the symbiotic internal audit/audit committee relationship described by the Treadway Commission. 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. The authors interpret these results as evidence of audit committee support for the internal audit function. In turn, Raghunandan et al. (1998) find that audit committees which (a) granted private access to the chief internal auditor; and, (b) reviewed both the program and results of internal auditing were more likely to be perceived as knowledgeable about accounting and auditing issues by the company's chief internal auditor.⁷ Finally, Rittenberg et al. (1999) find that strong

⁵ Section 110.03 of the Standards for the Professional Practice of Internal Auditing (IIA)(1993) states “independence of the internal audit is enhanced when the board concurs in the appointment or removal of the director of internal auditing.”

⁶ This sentiment was recently echoed by the Sarbanes-Oxley Act.

⁷ The BRC also recommends that the audit committee contain at least one member whose primary background is in finance or accounting.

internal audit departments – i.e. those that were able to successfully repel outsourcing - were those that were prominently featured in the firm’s corporate governance system.

3. Hypotheses

The results of Scarborough et al. (1998) and others suggest that effective audit committees – i.e. those with independent, diligent and capable members - are associated with objective and independent internal audit functions. This, in turn, implies a higher quality internal audit function and one that enjoys a higher organizational status as well. As a result, any purported quality differences between internal and external auditors in terms of recurring, traditional internal audit activities are significantly narrowed.⁸ Consequently, in firms with effective audit committees, the primary benefit of outsourcing recurring, traditional internal audit activities may be reduced to potential cost savings.⁹

Potential cost savings, however, are unlikely to be a significant consideration to an effective audit committee. Further, outsourcing existing internal audit function operations may threaten *internal* audit independence. Specifically, internal auditors with uncertain job status may be less likely to disagree with management on internal control issues (Quarles 1994). The negative impact of outsourcing on internal audit independence and objectivity provides a second rationale for independent audit committees to resist outsourcing existing internal audit operations.

⁸ Casting further doubt on any alleged quality differences is the fact that many internal auditors are often former external auditors (Caplan and Kirschenheiter, 1999).

⁹ Widener and Selto (1999) and Rittenberg et al. (1999) do not find evidence suggesting that external providers supply internal audit services at a lower cost. Further, an independent, objective internal audit department may serve to reduce external audit fees. SAS 65 prescribes that external auditor reliance on internal audit work is a function of internal audit objectivity and independence.

As previously discussed, effective audit committees are hypothesized to have an incrementally higher demand for overall audit quality. The Treadway Commission report indicates that, *because of their superior knowledge of the organization and its internal structure and their involvement at the division level*, coordinating the efforts of internal auditors with external auditors has the potential to reduce the incidence of fraudulent financial reporting (Treadway Commission 1987, italics added). We expect the audit committee to play a significant role in the outsourcing decision if it is independent of management, actively pursuing its corporate governance role and can recognize the effect that outsourcing can have on both external and internal audit independence and quality. Specifically, we hypothesize an effective audit committee's internal and external audit quality demand function diminishes the attractiveness of cost savings and underscores the internal control and independence risks posed by outsourcing. As such, the hypothesis is given in alternative form and is one-tailed in nature.

H₁: An effective audit committee is negatively related to the degree of outsourcing existing internal audit operations.

As previously noted, Raghunandan and McHugh (1994) posit that the potential effectiveness of the internal audit function are enhanced when internal audit reports directly to the audit committee. The Treadway Commission (1987), in particular, stresses the importance of the audit committee having the authority to hire or dismiss the chief internal auditor in maintaining the independence and organizational status of the internal audit function, although this effect is diminished when the audit committee itself is not an effective monitor. This suggests an effective audit committee that has added internal audit authority is more likely to shield internal audit from managerial cost saving initiatives. Accordingly, we hypothesize as follows:

H₂: The presence of an effective audit committee with joint or sole authority over the chief internal auditor's employment is negatively related to the degree of outsourcing existing internal audit operations.¹⁰

4. Survey and Sample Selection

The questionnaire provided in the Appendix was mailed to sample firms consisting of the largest 1,000 companies (in terms of total assets) in the year 1999 per Standard and Poor's Compustat database. While some prior researchers have surveyed chief financial officers or controllers, our survey was directed to chief internal auditor or alternate party. The alternative party was respondent in cases of 100% outsourcing – i.e. there was no in-house chief internal auditor. This first survey was sent in October 2000. A second request was sent in December 2000.

We obtained data related to internal audit outsourcing using survey questions. The two-page survey included the following questions:

1. Did you use any outsourced internal audit services during the past year? (yes/no)
2. What currently best describes your outsource service provider (OSP)? (current external auditor, other CPA firm, other)
3. During the last fiscal year, approximately how many hours were devoted to internal audit services by outside service providers and internal providers?

We also sought information on the types of activities outsourced.

We received a total of 287 usable responses, of which 219 firms were not financial institutions.¹¹ Our response rate of approximately 29% compares favorably with prior studies. The usual procedure in surveys is to use second respondents as proxies for

¹⁰ An alternate possibility is that audit committee authority offers sufficient protection for the continued employment of the internal audit function that outsourcing can take place without impacting the morale, independence and effectiveness of the function, leading to greater outsourcing.

non-respondents. We performed univariate tests for differences within this population and did not note any significant differences along any of the dependent or independent measures examined in this study. Table 1 provides details of the industry membership of the 219 usable, non-bank responses, compared to the industry profile of the original population of Fortune 1000 companies.

5. Research Design and Results

5.1 Research Design

Caplan and Kirshenheiter (1999) present an internal audit outsourcing model using an agency perspective. They note that the penalty structures and the reservation wage of an external provider differ from those of an in-house internal auditor. Their analytical models indicate that the incentives to outsource “generally increase in risk, including the risk that a control weakness exists and the size of the loss that can result from an undetected control weaknesses” (Caplan and Kirschenheiter 1999, 411).

We use Caplan and Kirschenheiter’s (1999) model as a benchmark in generating our regression model. We do so primarily due to the paucity of research on this subject. As noted above, the Caplan and Kirschenheiter (1999) model posits that audit risk is a primary determinant of the outsourcing decision. However, there are many factors that affect audit risk. We currently utilize three audit risk proxies in our analyses: financial condition, asset composition, and industry. These factors are chosen because prior research has documented that these are the three most important publicly observable factors that influence auditors’ perceptions about the risk associated with an audit client

¹¹ We determined not to report results including banks because many variables in the overall model do not apply to banks. We do include 42 non-banking firms in the financial services sector, although our primary results are not sensitive to their exclusion.

(Pratt and Stice 1994).

Specifically, companies in poor financial condition are more likely to experience financial statement errors and manipulate financial statements by disguising problems (Kinney and McDaniel 1989; Kreutzfeld and Wallace 1986). Professional literature indicates that client financial condition is an important element of the auditor's business risk (MacDonald 1997; Murray 1992). Accounts receivable and inventory involve significant subjective judgment, and are two areas more prone to misstatements (Icerman and Hillison 1991; Kreutzfeld and Wallace 1986). Prior researchers examining issues related to audit markets have included the proportion of the client's total assets in the form of receivables and inventory as a proxy for audit risk (Simon and Francis 1988; Simunic 1980). Companies in the high-technology industries are much more likely than other companies to be named as defendants in class-action lawsuits (Mednick and Peck 1994; *Business Week* 1995). Empirical evidence indicates that internal control related problems are more likely to occur in the high-tech industry than in other industries (Beasley et al. 1999).

Our discussion of prior research and of audit risk yields the following regression model that will be utilized in our tests:

$$\text{OUT\%} = \alpha + \beta_1\text{ASSETS} + \beta_2\text{TROUBLE} + \beta_3\text{RECINV} + \beta_4\text{RISKIND} + \beta_5\text{ACE} + \text{AUTHORITY*ACE} + \varepsilon,$$

Where,

OUT%	=	Percentage of overall internal audit budget outsourced to the external auditor.
ASSETS	=	Natural log of total assets (in millions).
TROUBLE	=	Dichotomous variable defined as '1' in cases where the company has experienced 2 net losses in any of the prior three fiscal years.
RECINV	=	Accounts receivable and inventory as a percentage of total assets.
RISKIND	=	Dichotomous variable coded '1'
ACE	=	Audit committee effectiveness variable (defined below).

AUTHORITY = Dichotomous variable coded '1' if the audit committee has either joint or sole authorization to dismiss the chief internal auditor (survey question #11).

Note that we also include company size (ASSETS) as a control variable. Studies examining auditing issues typically include size as a control factor. In the context of this study, one argument is that larger companies are more likely to have complex systems and hence be more likely to need outside expertise. Conversely, larger companies also are more likely to have an in-house internal auditing function (as well as the resources to support more in-house audit expertise) because of the greater frequency and demand for internal auditing. Thus, we do not make a directional prediction about the relationship between company size and the likelihood of outsourcing internal auditing. TROUBLE is a measure of financial distress often used as an audit risk measure in audit fee studies (Abbott et al. 2003b; Carcello et al. 2002). A financially troubled firm may be more likely to demand the cost savings and staffing flexibility which may be associated with outsourcing internal audit functions. RECINV is not a measure of financial distress, but is generally a measure of audit complexity and, thus, audit risk. It, too, is found in many prior audit fee studies. Greater complexity may be associated with more need for external expertise. Following Kasznik and Lev (1995), RISKIND classifies companies in the following SIC codes as high-tech: 283 (pharmaceuticals), 357 (computers), 360-367 (electronics), 737 (software) and 873 (R & D services). Such high risk companies may have a greater demand for the prestige and perceived reputation offered by external auditor provision of internal audit services.

Our first test variable ACE is defined as an audit committee that is both willing and able to influence the outsourcing decision. Prior research has used independence as a

measure of the audit committee's willingness to confront management on a variety of issues (Carcello and Neal 2003; 2000). The Treadway Commission (1987) and Sarbanes-Oxley Act call for audit committees comprised entirely of independent directors. Moreover, the Sarbanes-Oxley Act requires that at least one member of the audit committee exhibit 'financial expertise'. Finally, prior research posits that an audit committee's willingness to perform its duties is likely a function of the desire to do so (DeZoort et al. 2002; Kalbers and Fogarty 1993). The IIA and National Association of Corporate Directors suggest that in order for an audit committee to be properly apprised of current auditing issues, it should meet at least four times annually (IIA 1993b; NACD 1999). Thus, our ACE variable is dichotomously coded '1' in instances where the audit committee is comprised entirely of independent directors *and* contains at least one member with financial expertise *and* meets at least four times annually. Such data is collected from the firm's annual proxy statement.

Our second test variable (AUTHORITY) measures whether the survey response indicates that the audit committee has sole or shared authority for dismissal of the chief internal auditor. This factor is a measure of the institutional power and recognition of the internal audit function, and of the alignment between internal audit and the audit committee. We interact AUTHORITY with ACE, because in the absence of independence, authority is not expected to offer job protection for the internal auditor, or improve the internal auditor's institutional position.

5.2 Results

Table 2 provides descriptive data about our dependent and independent variables. In contrast to Widener and Selto (1999), well over half (131 or 60%) of our sample firms

outsourced a portion of the internal audit function. The mean (median) percentage of internal audit outsourcing is 10% (0%), with a range of 0 and the 25th percentile to 24% at the 75th. This suggests the growing popularity of outsourcing: the Widener and Selto (1999) study examines 1994 outsourcing, whereas the current study uses data from 2000. Interestingly, slightly less than half (41%) of our sample firms had audit committees that were comprised entirely of outsiders, contained at least one director with financial expertise and met at least four times during the year. Finally, we note our company sizes are quite large, with the mean (median) sample firm having \$12.9 (\$5.72) billion in total assets.

Table 3 provides the results from univariate analyses. Significant differences between the sample of companies that outsourced internal audit to the external auditor and those that provided services in house or used another service provider were observed for only three variables. Companies that outsourced internal auditing to the external auditor were (a) more likely to have higher values for the financial stress variable (TROUBLE), (b) less likely to have an effective audit committee (ACE) or to have an audit committee with authority over internal auditor dismissal. We interpret these findings as consistent with the financially troubled firms finding greater value in potential cost-savings from outsourcing to the external auditor. These findings are also consistent with audit committee influence affecting the outsourcing decision. The firms did not differ in measures of audit complexity and industry risk.

We also examined the correlation matrix for the independent variables (not reported). None of the correlations exceeds 0.26, indicating that multi-collinearity is not likely to affect regression results. This conclusion was confirmed by examining the VIF

scores and condition indexes for the regressions.

Table 4 provides initial OLS regression results. The only variables that are significant in the regression are TROUBLE, FORSALES% and the test variables ACE and ACE*AUTHORITY. Companies that are in worse financial condition and firms with a higher proportion of foreign sales are more likely to outsource internal auditing to the external auditor. Conversely, companies with effective audit committees are less likely to outsource internal auditing to the external auditor. The interaction of ACE and AUTHORITY is also incrementally negative and significant.

We further consider whether the type of functions outsourced (in addition to the extent of outsourcing to the external auditor) may be related to the audit committee's characteristics. Specifically, certain types of outsourcing may be less likely to potentially impair the organizational status of the internal auditors, and/or less likely to impair external audit independence (if external auditor is provider), while improving audit effectiveness by providing specialized expertise which is not available in-house. Table 5 shows the same regression model, when the percentage of IA outsourced includes only those items which appear to present the greatest threat to the internal auditor's status (routine internal control evaluation, audits of subsidiaries) or the greatest ability to impair external auditor independence (internal control evaluation and other recurring items), consistent with Embry and Davidson (1998). We find that both test variables are negatively related to the extent of outsourcing of this type, and that the parameter estimates are higher than when all types of outsourcing are included. In Table 6, we report the results of including only those types of outsourcing which are non-recurring (implying that the benefits of developing in-house expertise in that area are limited and

that the potential for impairment of the external auditor's independence is less) or which require special expertise which may be difficult to obtain in-house. We find that the relation between our test variables and the portion of outsourcing of these types of functions is negative, but insignificant. Thus, our results are consistent with the audit committee members distinguishing between types of outsourcing to the external auditor and influencing outsourcing decisions.

6. CONCLUSIONS AND LIMITATIONS

In this paper, we examine factors associated with outsourcing of the internal audit function to the external auditor. The preliminary results indicate that companies with effective audit committees are less likely to outsource. The association is sensitive to the type of activity outsourced: where the audit committee is effective, there is less outsourcing of activities which might impair the internal auditor's objectivity and organizational status and/ or impair the external auditors' independence. This is consistent with effective committees: (a) being stakeholders in the outsourcing decision, (b) taking steps that mitigate actual or perceived threats to external auditor independence, and (c) ensuring the independence of the internal audit function. The results also indicated that there is a positive association between financial stress and the outsourcing of internal auditing. This is consistent with the propositions in Caplan and Kirschenheiter (1999) that incentives to outsource internal auditing will increase with various measures of audit risk, or with cost-savings achieved through outsourcing to the external auditor being of greater value to distressed firms.

The practice of companies outsourcing internal auditing to the external auditor has become controversial, and has recently been addressed by regulators and legislators.

For example, the Sarbanes-Oxley Act, passed in 2002, has proscribed external auditors from supplying internal audit outsourcing services to their SEC audit clients. Our preliminary conclusion, based on these results is that the current total ban on outsourcing to the external auditors may go too far for three reasons. First, we show an association between financial distress and the employment of the external auditor for outsourcing activities. Second, based upon responses to (not reported) to our survey, and consistent with prior research, it appears that the majority of outsourced functions are related to obtaining expertise that is not available cost effectively in-house (i.e. EDP audit and special projects), or obtaining services in foreign locations. Lastly, it appears that effective audit committees are capable of distinguishing between types of outsourcing, based upon the potential for impairment of the external auditors' independence. We conclude, based on these factors that audit committees may be best positioned to make decisions on the trade-offs involved in external auditor employment to ensure adequate total audit coverage.

There are at least two limitations to the current study. First, we do not at this point differentiate between alternative explanations for our findings. To wit, our findings are consistent with an audit committee concern for external auditor independence, but also consistent with greater institutional alignment between the internal audit function and the audit committee providing the internal audit function with the ability to "protect its turf" against the external auditor. Future versions of this study will provide evidence on these alternate possibilities. Second, in common with many similar studies, we cannot eliminate the possibility that both less outsourcing to the external auditor and a more active, independent and expert audit committee are related to unidentified firm

characteristics. However, our interpretation is consistent with other studies finding that the audit committee is a concerned stakeholder in the corporate governance process.

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Table 1
Sample Selection Results

<i>Focus Industry</i>	Related Two-Digit SIC Codes	# of sample firms	% of sample	# of Fortune 1000 firms	% of Fortune 1000 firms
Construction	15 – 17	4	1.8	6	0.6
Consumer product & food	20 – 33	47	21.5	166	16.6
Energy	10 – 14, 46, 49	34	15.6	130	13.0
Financial Services	60 – 64, 67	42	19.3	335	33.5
Information & Communication	48, 73, 78, 79, 84	29	13.2	96	9.6
Manufacturing	34 – 39	28	12.8	122	12.2
Personal services And healthcare	72, 80, 83	4	1.8	12	1.2
Professional, commercial services, education	75, 76, 82, 87, 89	2	0.1	10	10.0
Real Estate	65, 70	1	0.4	6	0.6
Retail and Wholesale	50 – 59	21	9.9	82	8.2
Transportation	40- 42, 44, 45, 47	7	3.2	35	3.5
All other	1, 2, 7, 8, 99	0	0.0	0	0.0
Totals		219	100	1000	100

Table 2
Descriptive Data

Variable Name	Mean	Median	Standard Deviation	25th percentile	75th percentile
OUT%	0.099	0.000	0.247	0.000	0.243
ASSETS (billions)	12.941	5.717	31.606	3.236	12.131
TROUBLE	0.059	0.000	0.237	0.000	0.000
RECINV	0.243	0.196	0.204	0.077	0.335
RISKIND	0.064	0.000	0.245	0.000	0.000
ROA	0.035	0.002	0.055	0.013	0.054
ΔROA	-0.004	-0.002	0.030	-0.031	0.008
FORSALES%	0.202	0.196	0.176	0.132	0.389
ACE	0.411	0.000	0.493	0.000	1.000
AUTHORITY	0.402	0.000	0.491	0.000	1.000

Legend:

- OUT% = Percentage of overall internal audit budget outsourced (either to current external auditor or to outside service provider).
- ASSETS = Total assets (in billions).
- TROUBLE = Dichotomous variable defined as '1' in cases where the company has experienced 2 net losses in any of the prior three fiscal years.
- RECINV = Accounts receivable and inventory as a percentage of total assets.
- RISKIND = Dichotomous variable coded '1' for risky industries (283x, 357x, 360x-367x, 737x and 873x); '0' else.
- ROA = Return on assets for fiscal year 2000.
- ΔROA = Change in return on assets from fiscal years 1998 to 1999.
- FORSALES = Foreign sales as a percentage of total sales for fiscal year 2000.
- ACE = Audit committee effectiveness variable coded '1' for an audit committees that is comprised entirely of outside directors, contains at least one member with financial expertise and meets at least four times annually.
- AUTHORITY = Dichotomous variable coded '1' in instances where survey states the audit committee has either joint or sole authorization to dismiss the chief internal auditor (survey question #11).

Table 3
Univariate Analysis

Variable Name	Mean for Firms with no outsourcing or outsourcing to outside service provider	Mean for Firms outsourcing with current external auditor	Mann-Whitney
ASSETS (billions)	11.459	16.231	1.069
TROUBLE	0.0529	0.0735	5.663**
RECINV	0.2350	0.2622	0.835
RISKIND	0.0662	0.0588	0.043
ROA	0.0361	0.0331	0.189
ΔROA	-0.0036	-0.0059	0.265
FORSALES%	0.1958	0.2212	0.558
ACE	0.4834	0.3451	10.988**
AUTHORITY	0.4238	0.3529	5.455**
OBSERVATIONS	151 ¹²	68	

*, ** - differences are significant at p-levels of less than 0.05 and 0.01, respectively.

Legend:

- OUT% = Percentage of overall internal audit budget outsourced (either to current external auditor or to outside service provider).
- ASSETS = Total assets (in billions).
- TROUBLE = Dichotomous variable defined as '1' in cases where the company has experienced 2 net losses in any of the prior three fiscal years.
- RECINV = Accounts receivable and inventory as a percentage of total assets.
- RISKIND = Dichotomous variable coded '1' for risky industries (283x, 357x, 360x-367x, 737x and 873x); '0' else.
- ROA = Return on assets for fiscal year 2000.
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- ACE = Audit committee effectiveness variable coded '1' for an audit committees that is comprised entirely of outside directors, contains at least one member with financial expertise and meets at least four times annually.
- AUTHORITY = Dichotomous variable coded '1' in instances where survey states the audit committee has either joint or sole authorization to dismiss the chief internal auditor (survey question #11).

¹² Of the 151 firms, 88 had no outsourcing, whereas 63 outsourced a portion of their internal audit functions to an outside service provider who was not the current external auditor.

TABLE 4
Regression Results (all outsourcing included)

$$\text{OUT\%} = b_0 + b_1\text{LN(ASSETS)} + b_2\text{TROUBLE} + b_3\text{RECINV} + b_4\text{RISKIND} + b_5\text{ROA} + b_6\Delta\text{ROA} + b_7\text{FORSALES} + b_7\text{ACE} + b_8\text{ACE*AUTHORITY} + \varepsilon$$

Independent Variable	Expected Sign	Parameter Estimate	T-statistic
INTERCEPT	?	8.82	1.17
LN (ASSETS)	+	-0.18	-0.22
TROUBLE	+	2.18	2.11***
RECINV	+	2.41	1.12
RISKIND	+	0.98	0.89
ROA	-	-1.82	-0.398
Δ ROA	+	5.16	1.236
FORSALES%	+	1.79	1.33*
ACE	-	-0.46	1.85**
ACE*AUTHORITY	-	-0.08	1.74**
Adjusted R-squared	0.1037		

*, ** - differences are significant at p-levels of less than 0.05 and 0.01, respectively.

- OUT% = Percentage of overall internal audit budget outsourced (either to current external auditor or to outside service provider).
- ASSETS = Total assets (in billions).
- TROUBLE = Dichotomous variable defined as '1' in cases where the company has experienced 2 net losses in any of the prior three fiscal years.
- RECINV = Accounts receivable and inventory as a percentage of total assets.
- RISKIND = Dichotomous variable coded '1' for risky industries (283x, 357x, 360x-367x, 737x and 873x); '0' else.
- ROA = Return on assets for fiscal year 2000.
- Δ ROA = Change in return on assets from fiscal years 1998 to 1999.
- FORSALES = Foreign sales as a percentage of total sales for fiscal year 2000.
- ACE = Audit committee effectiveness variable coded '1' for an audit committees that is comprised entirely of outside directors, contains at least one member with financial expertise and meets at least four times annually.
- AUTHORITY = Dichotomous variable coded '1' in instances where survey states the audit committee has either joint or sole authorization to dismiss the chief internal auditor (survey question #11).

TABLE 5
Regression Results (not including special projects and IT)

$$\text{OUT\%} = b_0 + b_1\text{LN(ASSETS)} + b_2\text{TROUBLE} + b_3\text{RECINV} + b_4\text{RISKIND} + b_5\text{ROA} + b_6\Delta\text{ROA} + b_7\text{FORSALES} + b_7\text{ACE} + b_8\text{ACE*AUTHORITY} + \varepsilon$$

Independent Variable	Expected Sign	Parameter Estimate	T-statistic
INTERCEPT	?	7.76	0.91
LN (ASSETS)	+	-0.16	0.84
TROUBLE	+	2.23	2.48***
RECINV	+	2.68	0.58
RISKIND	+	1.86	0.65
ROA	-	-1.75	-1.398*
Δ ROA	+	3.67	1.011
FORSALES%	+	2.31	1.56**
ACE	-	-0.58	3.05***
ACE*AUTHORITY	-	-0.13	2.85***
Adjusted R-squared	0.1374		

*, ** - differences are significant at p-levels of less than 0.05 and 0.01, respectively.

LEGEND

- OUT% = Percentage of overall internal audit budget outsourced (either to current external auditor or to outside service provider).
- LN(ASSETS) = Natural log of total assets (in billions).
- TROUBLE = Dichotomous variable defined as '1' in cases where the company has experienced 2 net losses in any of the prior three fiscal years.
- RECINV = Accounts receivable and inventory as a percentage of total assets.
- RISKIND = Dichotomous variable coded '1' for risky industries (283x, 357x, 360x-367x, 737x and 873x); '0' else.
- ROA = Return on assets for fiscal year 2000.
- Δ ROA = Change in return on assets from fiscal years 1998 to 1999.
- FORSALES = Foreign sales as a percentage of total sales for fiscal year 2000.
- ACE = Audit committee effectiveness variable coded '1' for an audit committees that is comprised entirely of outside directors, contains at least one member with financial expertise and meets at least four times annually.
- AUTHORITY = Dichotomous variable coded '1' in instances where survey states the audit committee has either joint or sole authorization to dismiss the chief internal auditor (survey question #11).

**TABLE 6 (including only special projects and IT)
Regression Results**

$$\text{OUT\%} = b_0 + b_1\text{LN(ASSETS)} + b_2\text{TROUBLE} + b_3\text{RECINV} + b_4\text{RISKIND} + b_5\text{ROA} + b_6\Delta\text{ROA} + b_7\text{FORSALES} + b_7\text{ACE} + b_8\text{ACE*AUTHORITY} + \varepsilon$$

Independent Variable	Expected Sign	Parameter Estimate	T-statistic
INTERCEPT	?	9.09	0.67
LN (ASSETS)	+	-0.12	-0.22
TROUBLE	+	3.54	2.45***
RECINV	+	2.86	0.89
RISKIND	+	0.71	1.13
ROA	-	-1.14	-0.99
Δ ROA	+	3.89	1.01
FORSALES%	+	2.01	1.78**
ACE	-	-0.32	1.17
ACE*AUTHORITY	-	-0.05	1.08
Adjusted R-squared	.0955		

LEGEND

- OUT% = Percentage of overall internal audit budget outsourced (either to current external auditor or to outside service provider).
- LN(ASSETS) = Natural log of total assets (in billions).
- TROUBLE = Dichotomous variable defined as '1' in cases where the company has experienced 2 net losses in any of the prior three fiscal years.
- RECINV = Accounts receivable and inventory as a percentage of total assets.
- RISKIND = Dichotomous variable coded '1' for risky industries (283x, 357x, 360x-367x, 737x and 873x); '0' else.
- ROA = Return on assets for fiscal year 2000.
- Δ ROA = Change in return on assets from fiscal years 1998 to 1999.
- FORSALES = Foreign sales as a percentage of total sales for fiscal year 2000.
- ACE = Audit committee effectiveness variable coded '1' for an audit committees that is comprised entirely of outside directors, contains at least one member with financial expertise and meets at least four times annually.
- AUTHORITY = Dichotomous variable coded '1' in instances where survey states the audit committee has either joint or sole authorization to dismiss the chief internal auditor (survey question #11).

APPENDIX

Dear Sir or Madam:

We are conducting a brief survey to obtain data about the degree of outsourcing of the internal audit function present in your company and the primary factors in the outsourcing decision. Your insight is vital to this project, so please take a few minutes to complete the survey. *Please be assured that all responses will be strictly confidential, and no company or individual will be specifically identified. Thank you.*

1. Did you use any outsourced internal audit services during the past year? YES___ NO ___
If no, please go to question 8.

2. Which answer best describes your primary internal audit outside service provider (OSP)?.

CURRENT EXTERNAL AUDITOR

OTHER CPA FIRM

OTHER (please specify)_____

3. During the last fiscal year, approximately how many hours were devoted to internal audit services by:

OUTSIDE SERVICE PROVIDERS _____ hours INTERNAL PROVIDERS _____ hours

4. If you are currently outsourcing all or part of the internal audit function, how long has the current arrangement been in effect? ____ years

5. If you do outsource internal audit, please indicate your level of agreement with the following reasons for doing so (please circle one for each item):

Expertise of outside service provider (OSP)	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Legal liability insurance of OSP	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Scheduling flexibility/time management	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Reducing overall cost of internal audit	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Improve internal audit quality	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

6. Of the total internal audit hours currently being outsourced, please give the approximate percentage distribution of activities:

Financial statement audits of subsidiaries _____ EDP Auditing _____
Special consulting projects _____ Internal control evaluation _____
Routine internal audit functions _____ Other (please specify) _____

7. What are your plans regarding the level of internal audit outsourcing in fiscal 2001?

INCREASE % OF OUTSOURCING ___ MAINTAIN LEVEL ___

DECREASE OUTSOURCING ___

8. If you answered 'INCREASE' to question 7, please answer this question. If you answered 'DECREASE' or 'MAINTAIN' to question 7, please skip this question and go to question 9.

Please indicate your level of agreement with the following reasons for increasing the level of outsourcing (please circle one for each item).

Expertise of outside service provider (OSP)	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Legal liability insurance of OSP	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Scheduling flexibility/time management	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Reducing overall cost of internal audit	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Improve internal audit quality	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

