

**Does Consulting Lead to Audit Lowballing:
Longitudinal Evidence from Audit Fees**

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Abstract

In this paper, we examine how audit fees changed after the passage of the Sarbanes-Oxley Act of 2002 (SOX) conditional on the level of non-audit fees and the quality of corporate governance in the pre-SOX period. We find that firms that purchase high levels of non-audit services from their auditor prior to SOX experience an abnormal increase in their audit fees after SOX. The post-SOX fee increases could indicate either compromised auditor independence or knowledge spillovers. In order to disentangle between these two competing explanations, we also examine the effect of pre-SOX quality of corporate governance on post-SOX audit fees. We find a positive association between audit fees and corporate governance, both before and after SOX. We also find that firms with pre-SOX poor corporate governance and high non-audit services experience an abnormal increase in their audit fees post-SOX. This may indicate that auditor independence is compromised because knowledge spillovers is not expected to be affected by the quality of corporate governance, but loss of auditor independence good be mitigated with good governance.

Does Consulting Lead to Audit Lowballing: Longitudinal Evidence from Audit Fees

1. Introduction

The Sarbanes-Oxley Act of 2002 resulted in sweeping regulatory reforms in the US aimed at improving the effectiveness of financial reporting, corporate governance and auditing. Central to these reforms was a ban on many auditor-provided non-audit services (NAS). Critics have long alleged that NAS compromise auditor independence and jeopardize audit quality. In this paper, we investigate how audit fees changed after the imposition of the Sarbanes-Oxley Act of 2002 conditional on the level of non-audit fees and the quality of corporate governance in the pre-SOX period. We find that firms that purchased high levels of NAS from their external auditor prior to SOX experienced abnormally large increases in audit fees after SOX. These fee increases could potentially indicate one of two conditions prior to SOX: (1) the auditor's independence was compromised as a result of discounting audit fees to obtain work related to NAS or (2) the auditor obtained knowledge spillovers from NAS that reduced the cost of the audit.

To disentangle these competing explanations, we also examine the effect of corporate governance on fees. Consistent with other research, we find a positive association between audit fees and corporate governance both before and after SOX. Of most interest though is the finding that firms with poor corporate governance and high pre-SOX NAS experienced abnormally large increases in audit fees after SOX, while firms with good corporate governance and high NAS did not. We infer from this pattern of results that auditor independence was compromised by non-audit services in the pre-SOX period for firms with poor governance. This conclusion follows

because knowledge spillovers would not be expected to be affected by the quality of corporate governance but a loss of independence could be mitigated with good governance. Given that economic bonding can influence auditor behavior (Hoitash *et al.*, 2005), an important contribution of this paper is the observation that weak corporate governance may exacerbate the extent of the economic bonding between an auditor and client, thus the joint provision of audit and non-audit services may lead to impaired auditor judgment rather than benefits from knowledge spillovers.

The remainder of the paper is organized as follows. Section 2 discusses prior literature and we present our hypotheses in Section 3. Section 4 discusses the research design, while the results are reported in section 5. Supplemental analyses are discussed in section 6. Finally, section 7 concludes the paper.

2. Background and Prior Research

An efficient capital market depends upon auditors to ensure the production of credible financial information (Watts and Zimmerman, 1986). The accounting profession has long recognized the importance of independent auditors in maintaining the credibility of financial information.¹ Any economic entanglement between an auditor and client may compromise auditor independence. An often-cited example of such an entanglement is the selling of non-audit services to an audit client. The debate about auditor-provided NAS gained relevance in the 1990s with the rapid increase in NAS revenues generated by auditors. The SEC has been highly critical of this trend, noting that providing NAS to auditing clients “creates an economic

¹ Statement on Auditing Standards No. 1 defines an independent auditor as, “... free from any obligation to or interest in the client, its management, or its owners” (AICPA 1972).

incentive that may inappropriately influence the audit” (SEC, 2000).² Former SEC Chairman Arthur Levitt stated in a speech at NYU that “the audit is sometimes priced lower to attract clients willing to pay for higher margin consulting services” (Levitt, 2000). This discounting of audit prices is problematic as it demonstrates a willingness of auditors to make compromises with clients in order to attain lucrative contracts for non-audit services.

The current literature on the nature of the relationship between audit and non-audit services is quite diverse. For example, Simunic (1984) contends that the provision of NAS can enhance audit quality by increasing client specific knowledge, while Firth (2002) contends that NAS can compromise auditor independence. Historically, regulators have characterized the joint provision of audit services and NAS as highly inappropriate because it could lead to impaired auditor judgment. Under the “impaired judgment” view of NAS, audits are discounted to promote the more profitable business of NAS so a high level of NAS is considered to be a sign of lower audit quality (Levitt, 2000). This view suggests that a negative relationship between audit and non-audit fees is a sign of *decreasing* audit quality.

Proponents of allowing auditor-provided NAS argue that economies of scope and knowledge spillovers from non-audit services to the audit create efficiencies that potentially benefit both the auditor and the client. In his seminal paper, Simunic (1984) argues that the joint provision of audit and non-audit services creates knowledge transfers which ultimately result in economic rents accruing to the auditor. These knowledge spillovers can lower the cost of an audit if the market for audit services is competitive. Under these conditions a high level of NAS

² Securities and Exchange Commission (SEC). 2000. *Final Rule: Revision of the Commission’s Auditor Independence Requirements*. Release No. 33-7919. Washington, D.C.: Government Printing Office.

which is associated with reduced audit fees (i.e., a negative association) is considered a sign of *increasing* audit quality.

The effect of NAS on audit quality may also be influenced by the structure of the markets for audit and non-audit services. If the market for audit services is not competitive, the economic rents noted by Simunic (1984) that arise as a result of NAS may be retained by the auditor. Solomon (1990) argues that if the NAS market is monopolistic, an audit client who wishes to obtain NAS from their auditor may be willing to pay higher fees for “bundled” audit and non-audit services.³ Finally, Palmrose (1986) notes that a positive relationship between audit and non-audit fees may simply reflect underlying problems in a client which causes it to consume more of both types of services. If this is the case, the existence of NAS would signal that the audit is complex, requiring greater levels of auditor effort and related fees (Hackenbrack and Knechel, 1997). Any of these explanations may manifest as a positive association between audit and non-audit fees but do not necessarily indicate either higher or lower audit effectiveness.

In spite of the various theoretical explanations for the potential link between audit and non-audit services, empirical findings have not provided clear evidence on what that association is. Initial research finds a significant positive relationship between audit and non-audit fees (Simunic 1984, Palmrose 1986, Firth, 1997). However, after controlling for self-selection, Abdel-Khalik (1990), Whisenant *et al.* (2003), and Hay *et al.* (2006) find no association between fees for audit and non-audit services.

³ This effect may also occur due to transaction costs of hiring different professionals for different services. Management may place a positive value on “one-stop shopping” for professional services and be willing to pay more for the combination of audit and non-audit services from the same supplier.

Regardless of whether audit fees and non-audit fees are positively or negative related, a more important question is whether non-audit services affect financial reporting quality. Barkess and Simnett (1994) and DeFond *et al.* (2002) find no support for a relationship between NAS and the likelihood a client receives a qualified audit opinion. However, Firth (2002) concludes that the provision of NAS services from the incumbent auditor increases the probability of clean audit opinions. Raghunandan *et al.* (2003) maintain that NAS do not inappropriately influence audit quality, while Kinney *et al.* (2004) provide mixed findings.⁴ Frankel *et al.* (2002) find that non-audit fees are positively related with small earnings surprises and the magnitude of discretionary accruals, while audit fees are negatively associated with earnings management indicators. However, Ashbaugh *et al.* (2003) control for firm performance and find that the positive relationship between the provision of NAS and abnormal accruals disappears.⁵

In general, the evidence on non-audit services fails to present a very clear picture of how the audit is affected by the provision of NAS. A positive relationship between audit and non-audit fees might indicate a loss of audit quality due to the increased economic dependence between an auditor and a client. On the other hand, a negative association might also indicate a loss of audit quality due to low-balling of audit fees in order to obtain access to lucrative consulting contracts. Thus, the only way to determine if an association between audit and non-audit fees is bad is to look at the fees relative to some level of “natural” fee for a given audit. In this paper, we address the issue of non-audit services by examining the behavior of audit fees

⁴ More specifically, Kinney *et al.* (2004) do not find a positive relationship between restatements and non-audit prices for financial system design or internal audit services. They interpret this finding as lack of evidence for the impaired auditor independence hypothesis. However, they find a weak positive relationship between unspecified non-audit services and restatements, which could indicate support for the impaired auditor independence hypothesis.

⁵ Other papers that corroborate the research finding of Ashbaugh *et al.* (2003) include Chaney and Philipich (2002), Larcker and Richardson (2004), and Reynolds *et al.* (2004).

around the time of the Sarbanes Oxley Act of 2002 which significantly curtailed certain NAS offered by auditors.⁶ By also considering the effect of corporate governance on audit fees we are able to disentangle the “impaired judgment” view from the “knowledge spillover” view of NAS.

3. Hypotheses

If an association between audit and NAS exists, one would expect that the curtailment of NAS would terminate this association. The immediate effect of the regulation could be a shock to audit contracting and related fees. For example, if pre-SOX audit and non-audit fees are negatively associated because of knowledge spillovers or lowballing, then the banning of NAS would lead to an upward adjustment of audit fees, with a higher increase occurring for the largest NAS purchasers. On the other hand, if pre-SOX audit and non-audit fees are positively associated due to monopolistic markets, then the effect of the ban on non-audit services would be to reduce audit fees after SOX, with the largest changes again occurring for clients with the largest NAS. Finally, if the relationship between audit and non-audit fees is due to the underlying complexity of the client (Palmrose 1986), the level of NAS before SOX might not be related to the level of audit fees after SOX.

The exogenous nature of SOX provides an experimental setting to examine the relationship between audit and non-audit fees. If any of the above views regarding the association between audit and non-audit services hold, then in the absence of joint provision these benefits or costs are disrupted. We expect that the effect of such market interruptions would be revealed by adjustments in audit fees over time. For example, if the “impaired

⁶ Specifically, section 201 of the SOX prohibits auditors to perform bookkeeping or other services related to accounting records, financial information system design and implementation, appraisal, fairness opinions, actuarial services, internal auditing, management functions or human resources, broker and investment advisor services, legal and expert services unrelated to the audit, and any other service that the board determines as impermissible.

judgment” view holds and a negative relationship between audit and non-audit fees exists, then the prohibitions against NAS terminates related rents and reduces the incentive to use an audit as a loss leader. Audit fees would then drift upwards to their *natural* (or unbundled) level. Similarly, if the “knowledge spillover” view holds, then the prohibition against NAS disrupts the sharing of information that existed under the joint provision of services and the auditor would need to acquire knowledge about a client through increased audit effort, also leading to increased audit fees. Alternatively, if the relationship of audit and non-audit fees was positive prior to SOX (e.g., due to monopolistic markets), then post-SOX audit fees would decrease, gravitating to their natural (unbundled) levels. In most of the situations described, it can be expected that audit fees will change as a result of the prohibitions against NAS included in SOX. Since the prior literature is mixed concerning the relationship between audit and non-audit fees, our first hypothesis is stated in a non-directional form:

H1: Firms with high levels of NAS prior to SOX will experience an abnormal audit fee adjustment after the passage of SOX.

Prior research has generally shown that earnings management is lower, and reporting quality better, for firms that have attributes of good corporate governance such as audit committees and independent directors (Kaplan and Reishus 1990, Gilson 1990, Beasley 1996, Carcello and Neal 2000, Klein 2002, Bedard *et al.* 2004). Research on the association between corporate governance and audit fees suggests that firms with more independent directors pay higher audit fees (Carcello *et al.* 2002; O’Sullivan 1999). This result is generally interpreted to mean that independent boards demand more assurance from their auditors (Hay *et al.* 2006; Hay and Knechel 2007), leading to a positive relationship between the strength of corporate governance and audit fees, i.e., firms with good governance pay more in audit fees while firms

with weak governance pay lower fees. However, when extending the analysis of the effect of governance to include non-audit services, Abbott *et al.* (2003) report that audit committees attempt to reduce the level of NAS purchased by the auditor. Thus, good governance can be expected to be positively associated with audit fees and negatively associated with non-audit fees. Since SOX imposed extensive new corporate governance responsibilities on all companies, differences in levels of corporate governance prior to SOX would be reduced as firms with weak governance come into compliance with the new regulations. Thus, the effect of governance on fees could be expected to be strongest in the pre-SOX period when there was the most variation in the quality of corporate governance. This leads to our second hypothesis:

H2A: Firms with weak corporate governance in the pre-SOX will have lower audit fees than firms with good governance.

After SOX, firms that had weak governance prior to SOX would tend to improve the overall quality of their governance structure. As they brought their governance structures in line with firms that already had good governance, it can also be expected that the audit fees for these firms would increase to levels more consistent with those paid by good governance firms. Since the audit fees of firms with weak governance would start from a relatively low level, coming into compliance with SOX would result in larger increases in audit fees after SOX than observed by the firms that already had good governance prior to SOX. This perspective leads to our third hypothesis:

H2B: Firms with weak governance in the pre-SOX period will have larger increases in audit fees after SOX than firms with good governance.

Independent boards and strong audit committees are attributes of good governance. Consequently, to the extent that auditor-provided NAS undermine auditor independence, an

active and effective system of corporate governance may mitigate problems associated with a loss of independence due to NAS. Abbott *et al.* (2003) suggest that audit committees prefer to avoid obtaining NAS from the firm's external auditor because such services may undermine the quality of the financial statement audit. Consequently, the "impaired judgment" view of NAS is less likely to apply in an environment where there is strong Board oversight. A firm with good governance that purchases NAS presumably does so because it is economically beneficial so the firm may obtain the benefits of knowledge spillovers (if any) while avoiding a loss in auditor independence. The opposite applies to situations of weak governance: the auditor of a firm with high NAS but weak governance is more likely to suffer the effects of impaired auditor judgment (but may still obtain any potential benefits of knowledge spillovers). If the primary effect of bundling audit and non-audit services is to create knowledge spillovers, this will occur regardless of the quality of corporate governance so the effect of restricting NAS would be the same for both good and weak governance clients and any effect on the audit fee would continue after SOX. On the other hand, if the primary effect of NAS is a loss of auditor independence that undermines audit quality, the imposition of SOX is likely to have a bigger effect on the audit fees of firms with high NAS but weak governance. Following this rationale, our final hypothesis is:

H3: Firms that have high NAS and weak governance in the pre-SOX will exhibit larger increases in audit fees in the post-SOX period.

4. Research Design

To test the above hypotheses, we use the difference-in-difference (DID) estimation technique which can be used to evaluate exogenous changes in government policies. DID estimation requires pooled cross-sectional data from before and after a policy change. The enactment of SOX readily fits the assumptions of DID estimation. Treating SOX as a quasi-

experimental setting, we can examine the effect on audit fees conditional on circumstances that existed prior to the law's enactment.⁷ We are specifically interested in measuring the effect of SOX on audit fees in relation to pre-SOX NAS and corporate governance. We specify firms with high NAS as our experimental treatment group, defined as those firms for which the ratio of non-audit to audit fees is greater than the median.⁸ The remaining firms form a control group.⁹ In order to control for systematic differences between the control and treatment groups, the model requires two years of data, one year prior to the implementation of SOX and one year after, but not necessarily the period *immediately* prior or *immediately* after the event. This allows us to consider cases where the effect of an event is not instantaneous and where the starting and ending points of the effect of an event are unclear.¹⁰ We use data from 2001 to represent the pre-SOX period, which is also the first year with publicly available audit and non-audit fees.¹¹ We use data from 2004 to represent the post-SOX period because the full regulatory effect of SOX may not have been immediate, requiring some transition period to have its full impact.¹²

4.1 Regression Models for DID Estimation

⁷ For a more detailed explanation of the difference-in-difference estimating method see Wooldridge (2006), *Introductory Econometrics, A Modern Approach*, Chapter 13, pp 454-460. Also, for the application of the difference-in-difference method in a regression framework see Gruber (1994).

⁸ We consider alternative definitions of our treatment group including upper quartile of the ratio of non-audit fees to audit fees, and ratio of non-audit fees to total fees, where total is the sum of audit and non-audit fees. The results remain quantitatively the same.

⁹ Ideally, the control group would be firms that do not purchase NAS from their auditor and in our sample only 6 firms have zero non-audit fees. This ideal DID estimator captures the effect of SOX on firms with NAS (treatment) vs. firms without NAS (control). However, the inclusion of firms with some NAS in the control group works against finding any results because it mitigates the effect of SOX.

¹⁰ One disadvantage of this approach is that it is difficult to separate the effect of contemporaneous events.

¹¹ Use of data from year 2001 could be problematic given that the SEC had issued a disclosure rule a year earlier – *FRR No. 56* - that could have impacted the magnitude of NAS. However, any change in auditor behavior resulting from the disclosure rule would work against our results. That is, given that auditors had to disclose prices would give them an incentive to cut NAS and/or subjectively report lower non-audit prices and higher audit prices, which in turn would lessen the effect of SOX on audit price trajectory. However, our results strongly suggest in favor of an abnormal post-SOX change in audit prices.

¹² In our supplemental analysis, we provide a robustness test where we define year 2003 as the post-SOX period.

To test H1, we use the following model based on pooled cross-sectional data from 2001 and 2004:

$$LAF_i = \alpha + \beta_1(D4) + \beta_2(HNAF_i) + \beta_3(HNAF*D4_i) + \beta_4(LNSIZE_{it}) + \beta_5(INVREC_{it}) + \beta_6(PROFIT_{it}) + \beta_7(LOSS_{it}) + \beta_8(LEV_{it}) + \beta_9(ICW_{it}) + \beta_{10}(BIG4_{it}) + \beta_{11}(SEG_{it}) + \sum \gamma_j IDUM_j \quad (1)$$

All variables are defined in Table 1. We define the dependent variable in model (1) as:

LAF The natural log of audit fees.

Relevant test variables in this model include:

D4 Dummy variable which takes the value 1 for 2004, zero otherwise. D4 captures the overall change in audit fees across the entire market from 2001 to 2004. Since SOX is associated with increased audit effort, the coefficient on D4 is expected to be positive.

HNAF Dummy variable with a value of 1 if fees for NAS are above the median for the sample, zero otherwise. This variables represents the treatment group of high-NAS firms and captures the basic relationship between audit and non-audit fees. Based on prior literature the coefficient is expected to be negative.¹³

HNAF*D4 Interaction of D4 and HNAF which indicates fees for high NAS firms in 2004 (post-SOX).

Control variables based on prior research include (Hay *et al.* 2006):

LNSIZE The natural log of total assets.

INVREC Ratio of inventory plus receivables to total assets.

PROFIT Ratio of net income to total assets.

LOSS Dummy variables with a value of 1 if a firm has a net loss, zero otherwise.

LEV Ratio of long term debt to total assets.

ICW Dummy variable that indicates firms with internal control weaknesses

¹³ Recall that most evidence points to a positive association between audit and non-audit fees. Since the treatment group derives from the ratio of non-audit fees to audit fees, we equivalently expect a negative relationship.

in the years 2003 or 2004.¹⁴

BIG4	Dummy variable if the firm uses a Big 4 auditor (excluding Andersen), zero otherwise.
SEG	Square root of the number of business segments.
IDUM	Dummy variable for specific 4-digit industry codes based on Ashbaugh <i>et al.</i> (2003).

The coefficient of most interest for H1 is for the interaction term HNAF*D4. H1 predicts a significant coefficient on this variable since the enactment of SOX is expected to have a differential effect on the audit fees of high-NAS firms. The effect may be either positive or negative and depends on the pre-SOX economic conditions.

<<<<< Insert Table 1 >>>>>

We use the following model to test H2A and H2B. This model includes a variable that measures corporate governance but does not include a variable for NAS:

$$\text{LAF}_i = \alpha + \beta_1(\text{D4}) + \beta_2(\text{GOV}_i) + \beta_3(\text{GOV}*\text{D4}_i) + \beta_4(\text{LNSIZE}_{it}) + \beta_5(\text{INVREC}_{it}) + \beta_6(\text{PROFIT}_{it}) + \beta_7(\text{LOSS}_{it}) + \beta_8(\text{LEV}_{it}) + \beta_9(\text{ICW}_{it}) + \beta_{10}(\text{BIG4}_{it}) + \beta_{11}(\text{SEG}_{it}) + \sum \gamma_j \text{IDUM}_j \quad (2)$$

where the variables are defined as before. Using an approach that is similar to Dhaliwal *et al.* (2006) and Defond *et al.* (2005), we construct a composite measure of corporate governance that incorporates numerous characteristics of the Board of Directors and audit committee (see below for more detail). The composite measure can have a value ranging from 0 to 11 depending on how many attributes of good corporate governance are exhibited by a firm. Based on this metric we then define the following additional variables:

¹⁴ Data on the disclosures of internal control weaknesses are obtained from Doyle, Ge and McVay (2007). We do not control for SOX 404 accelerated vs. non-accelerated filers because the overwhelming majority of our sample is composed of accelerated filers.

GOV	Dummy variable with a value of 1 if the composite score for corporate governance is less than 4 (i.e., weak).
GOV*D4	Interaction of D4 and GOV which indicates fees for pre-SOX weak corporate governance firms in 2004 (post-SOX).

H2A predicts a negative coefficient for GOV and H2B predicts a non-significant coefficient for GOV*D4.¹⁵

We use the following model to test H3. This model includes measures of both NAS and corporate governance:

$$LAF_i = \alpha + \beta_1(D4) + \beta_2(HNAF_i) + \beta_3(GOV_i) + \beta_4(HNAF*GOV_i) + \beta_5(HNAF*GOV*D4_i) + \beta_6(LNSIZE_{it}) + \beta_7(INVREC_{it}) + \beta_8(PROFIT_{it}) + \beta_9(LOSS_{it}) + \beta_{10}(LEV_{it}) + \beta_{11}(ICW_{it}) + \beta_{12}(BIG4_{it}) + \beta_{13}(SEG_{it}) + \sum \gamma_j IDUM_j \quad (3)$$

where the variables are defined as before and both HNAF and GOV are included simultaneously in the analysis. We add HNAF*GOV*D4 to reflect the three way interactive effect of high NAS and weak governance prior to SOX on 2004 audit fees. H3 predicts that the coefficient for the three-way interaction will be positive.

4.2 Composition of GOV

To measure the quality of corporate governance, we consider a variation on governance proxies proposed by Dhaliwal *et al.* (2006) and Defond *et al.* (2005). Specifically, we develop a measure that incorporates attributes of the Board of Directors and the Audit Committee. First, we identify seven board factors and four audit committee attributes that are reasonable indicators of better corporate governance. We also define the conditions under which each attribute would constitute an environment of strong governance as follows:

¹⁵ This is because we expect audit fees of pre-SOX weak governance firms to increase abnormally relative to pre-SOX strong governance firms. Hence, in the post-SOX the audit fees of all firms should be more closer together reflecting on the lower variance of the governance quality. Hence, we do not expect a major difference in the audit fees of the two groups.

- **Board size:** Historically, researchers have found a negative association between board size and firm value (Yermack, 1996; Eisenberg, *et al.*, 1998; Loderer and Peyer, 2002). However, recent work suggests that larger boards are more effective (Chen and Zhou 2007). For example, Xie *et al.* (2003) found a negative association between discretionary accruals and board size. Therefore, we code firms 1 if the board size is greater than 10, zero otherwise.¹⁶
- **Board independence:** Although prior research is mixed, the prevailing view is that a higher proportion of outside directors is associated with strong corporate governance (e.g., Weisbach 1988, Rosenstein and Wyatt 1997, Brickley *et al.* 1994, Dechow *et al.* 1996, Beasley 1996, Core *et al.* 1999). Arguably, outside directors have more incentives to carry out their monitoring tasks, not to collude with top managers, and objectively question and evaluate management performance (Fama and Jensen 1983, Carcello and Neal 2003). Following prior studies, we code firms 1 if 60 percent or more of the directors are independent, zero otherwise (Weisbach 1988, Denis *et al.* 1997).
- **Board Experience:** A Board member's monitoring ability increases with the member's experience on boards (Fama 1980, Kaplan and Reishus 1990, Ferris *et al.* 2003). Researchers find a negative association between outside directorships and financial reporting problems (Bedard *et al.* 2004, Yang and Krishnan 2005). We code firms 1 if the average number of directorships per board member is greater than 1, zero otherwise.
- **Board Turnover:** Directors with lengthy tenure have greater experience and knowledge of the firm so they can more effectively constrain management than short tenured directors (Dhaliwal *et al.*, 2006). However, there is a risk that long serving members develop an inappropriate closeness to management (Vafeas 2003, Beasley 1996). We code firms 1 if the board has less than 20 percent of its members with less than 3 years experience, zero otherwise.
- **CEO-Chair Separation:** A CEO who is also Chairman of the Board is associated with higher instances of SEC enforcement actions, higher control risk, lower sensitivity of CEO turnover to firm performance, and less voluntary disclosure (Dechow *et al.* 1996, Tsui *et al.* 2001, Goyal and Park 2002, Gul and Leung 2004, Farber 2005). We code firms 1 if the CEO and board chairperson positions are held by different individuals, and zero if one person serves as both CEO and Chairman.
- **Independent Nominating Committee:** An independent nominating committee facilitates the selection of independent members for the audit committee and other Board positions. Independent nominating committees are negatively associated with financial reporting problems such as restatements (Nabar *et al.* 2006, Carcello *et al.* 2006). We code firms 1 if the firm has a nominating committee consisting of at least one independent member, zero otherwise.

¹⁶ Historically, the ideal group is between 8 and 12 members (Merton, Fiske, and Kendall 1956; Smith 1972).

- **Blockholder:** Prior studies find evidence that Board members who are blockholders improve corporate governance through better external monitoring (McConnell and Servaes 1990, Beasley 1996, Dechow *et al.* 1996, Karpoff *et al.* 1996, Klein, 2002). Therefore, we code firms 1 if at least one director owns more than 5 percent of the outstanding shares of the firm, zero otherwise.
- **Audit committee size:** Evidence is mixed regarding the benefits of larger audit committees (Felo *et al.*, 2003). A larger audit committee has a greater knowledge base to draw from, a greater ability to delegate tasks, and is less vulnerable to a single member dominating discussions. Larger audit committees are negatively associated with the incidence of suspicious auditor switch and restatements (Carcello *et al.*, 2006). Recent work is more ambiguous as researchers find no association between committee size and internal control problems, restatements, earnings management, earnings thresholds (Archambeault and DeZoort 2001, Abbott *et al.* 2004, Bedard *et al.* 2004, Krishnan 2005, Vafeas 2005). These null results may be caused by the homogenization of audit committee size by regulations, rather than a reduction in the importance of committee size. Consistent with the recommendation of the Blue Ribbon Committee on Audit Committees (1999), we code firms 1 if the audit committee has at least three members, zero otherwise.
- **Audit committee independence:** Companies with audit committees that are more independent are less likely to experience fraud, SEC enforcement action, material restatements, and earnings management, than companies with less independent committees (Defond and Jiambalvo 1991, McMullen and Raghunandan 1996, Beasley *et al.* 2000, Klein 2002, Bédard *et al.* 2004, Bradbury *et al.* 2004). Consistent with the Blue Ribbon Committee (1999), we code firms 1 if the committee is composed of solely independent members and 0 if the committee includes at least one affiliated member.¹⁷
- **Audit committee expertise:** Companies with audit committees that have greater expertise in corporate governance are more likely to support auditor in management auditor disputes, and less likely to engage in earnings management (Dezoort and Salterio, 2001 Yang and Krishnan 2004). Bedard *et al.* [2004] found that the more directorships a member holds, the lower the incidence of earnings management. We code firms 1 if the average number of outside directorships held by audit committee members exceeds 1, zero otherwise.
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¹⁷ To ensure that members are independent, Sarbanes-Oxley (SOX) prohibits current employees, former employees within the last 3 years, or a close relative of an executive officer, directors who accept non-director compensation in excess of \$60,000 or whose employer receives at least \$200,000 in any of the past 3 years from serving on audit committees. SOX, however, failed to provide a definition of compensation. This omission makes it uncertain how boards are to account for stock grants, stock options, and future retirement benefits.

¹⁹ Prior research provides evidence of abnormal prices associated with such firms. Asthana *et al.*, (2004) find that former Andersen clients who remained with a Big 4 auditor had a larger increase on audit prices relative to preexisting Big 4 clients.

- **Tenure:** Financial and audit committee expertise relates to the member’s ability to identify opportunistic behavior through knowledge of the company’s history, financial policies, and executives (Hermalin and Weisbach, 1991). Research provides evidence of a negative association between average member tenure and earnings management (Xie *et al.* 2003, Bedard *et al.* 2004, Yang and Krishnan 2005). We code firms 1 (for strong governance) if the average tenure of the audit committee is greater than 3 years, zero otherwise.

Next, for each firm, we calculate the governance score as the sum the eleven attribute scores. Finally, using a cutoff of 4, we determine whether the firm has strong or weak governance based upon the total score. That is, a score above 4 is considered strong corporate governance while 4 or less is considered weak governance. To construct our test variable, GOV, firms with weak governance are then coded 1, zero otherwise.

4.3 Data

We obtain financial data from the Compustat Industrial file, and the auditing and non-auditing fees from the Audit Analytics database. Initial matching of Compustat and Audit Analytics resulted in a sample of 5,396 firms in year 2001. Following prior literature, we remove firms in the financial services industry (SIC codes 6000-6999), observations with missing data, and former Andersen clients.¹⁹ This reduces our sample to 3,662 firms in year 2001. We obtain the corporate governance data from the Investor Research and Responsibility Center (IRRC) database. We delete firms with missing governance data, which reduces our sample to 1,572 firms. Because our research design requires that firms survive until year 2004, we remove another 781 firms from the sample. Our final sample consists of 791 firms or 1,582 observations. Table 2 provides the details of the sample selection process.

<<<<< Insert Table 2 >>>>>

5. Results

5.1 Descriptive Statistics and Univariate Results

Table 3 reports the distribution of the sample firms across the industry classifications. The distribution is similar to other research (Whisenant *et al.* 2003, Ashbaugh *et al.* 2003). Panel A of Table 4 reports the descriptive statistics of the continuous variables used in our analyses for year 2001 and 2004. The mean (median) audit fee in 2001 is \$1.113 (\$0.49 million), increasing to \$3.094 (\$1.364 million) in 2004. This trend, which is later confirmed by the multivariate results, is consistent with the anecdotal evidence that the enactment of SOX led to an overall increase in audit fees. The mean (median) non-audit fee in 2001 is \$2.872 (\$0.7 million), declining to \$1.234 (\$0.441 million) in 2004. The decline in non-audit fees is consistent with SOX curtailing the types of auditor-provided NAS. Notice that the mean (median) of non-audit fees in 2001 is much higher than its counter part for audit fees, suggesting that auditing firms received a large portion of their revenue from NAS. The ratio of non-audit to audit fees in 2001 has a mean (median) of 2.27 (1.48), with the ratio dropping to 0.50 (0.31) in 2004.

<<<<< Insert Tables 3 and 4 >>>>>

The mean (median) size of firms in 2001 is \$5,388 (\$1,189) million, increasing to \$6,270 (\$1,491) million in 2004. INVREC, LEV and SEG are relatively constant over the two years but PROFIT improves from -0.9% to 3.0%. Panel B of Table 4 presents the distribution of categorical variables. Firms with negative income represent 29 percent of the sample in 2001, decreasing to 16 percent in 2004. Only about 6 percent of the firms present in our sample exhibit internal control problems in the year 2003 or 2004. Over 97% of the firms in the sample are

audited by the Big 4 in both 2001 and 2004. Of interest to this study is that 45 percent of the firms exhibit weak governance in 2001 based on the composite measure on which GOV is based.

The pairwise correlations of our primary variables are presented in Table 5. As expected, the pairwise correlation between LAF and HNAF is positive, albeit low. The pairwise association between LAF and the other variables is in the expected direction with the exceptions of PROFIT and LOSS (INVREC is not significant). Variance inflation factors indicate no problems with multicollinearity.

<<<<< Insert Table 5 >>>>>

5.2 Test of Hypothesis 1

Table 6 presents the OLS regression results of model (1). Consistent with prior literature, the model appears to be well-specified with an adjusted R^2 of 74 percent. The coefficients on the control variables are all significant and in the predicted direction, except auditor quality which is insignificant. This result is likely due to few firms employing non-Big 4 firms. As expected, the coefficient on the year dummy D4 is positive and significant, indicating that, on average, audit fees increased for all firms after SOX by approximately 82 percent (relative to 2001). The coefficient on HNAF is negative and significant as expected and consistent with prior literature. For H1, we are interested in the coefficient on the interaction term HNAF*D4, which measures the specific effect of SOX on the audit fees of high-NAS firms. The coefficient on the interaction term is positive and significant, indicating that audit fees of high-NAS firms increased by about 18 percent more than other firms after SOX. This increase is over and above the overall market increase and is consistent with both the “impaired auditor judgment” and “knowledge spillover” views of NAS. That is, the joint provision of services prior to SOX exhibits a pricing pattern that

is consistent with the cross-subsidization of audit and non-audit services. This link in fees was disrupted, causing fees of high-NAS firms to increase relative to low-NAS firms.

<<<<< Insert Table 6 >>>>>

5.3 Test of Hypotheses 2A and 2B

Table 7 presents the results for model (2). This model is also well-specified with an R^2 of 74 percent. The coefficients of the control variables are comparable to those obtained in model (1). As before, the coefficient on D4 is positive and significant. Consistent with H2A, the coefficient on GOV is negative and significant suggesting that firms with weak governance generally pay lower audit fees. This result is also consistent with prior literature that finds that firms with strong governance pay higher fees. The coefficient on the interaction term, GOV*D4, is not significant. That is, while firms with weak governance prior to SOX paid significantly lower audit fees in 2001 than firms with good governance, that difference has disappeared in 2004. This result indicates that the fees of weak governance firms have increased, “catching” up with other firms, which supports H2B.

<<<<< Insert Table 7 >>>>>

5.4 Test of Hypothesis 3

Table 8 presents the results for model (3). The model is well specified with an R^2 of 75 percent and coefficients for the control variables that are consistent with models (1) and (2). The coefficient on D4 remains positive and significant. However, the coefficient on HNAF is no longer significant compared to Model (1), while the coefficient on GOV remains negative and significant. The joint effect of high NAS and weak governance is captured by the coefficient for HNAF*GOV, which is negative and significant. This indicates that firms with high NAS and

weak governance paid lower audit fees relative to other firms prior to SOX, again suggesting a cross-subsidization of audit and non-audit services. The effect of SOX is captured by the coefficient on the three way interaction, HNAF*GOV*D4. This coefficient is positive and significant indicating that pre-SOX high-NAS/weak-governance firms paid about 19 percent higher audit fees in the post-SOX period than other firms.

On balance, we believe that this pattern of results hints at potentially impaired auditor judgment for some high NAS firms prior to SOX. If the “knowledge spillover” view holds in reality, then the unbundling of audit services and NAS in the presence of weak governance should not lead to any unusual changes in audit fees because those benefits would accrue to the auditor and client in both a good and weak governance setting. However, if the “impaired judgment” argument is representative of professional practices, then the unbundling of services would be expected to have the most effect when firms have weak governance because good governance in other firms would mitigate some (or all) of the problems associated with a loss of independence. Since we find that firms that purchase high levels of NAS only pay a premium after SOX if they also have weak governance prior to SOX, the evidence supports the loss of independence view of non-audit services for those firms.

<<<<< Insert Table 8 >>>>>

6. Supplemental Analyses

6.1 Sensitivity to the post-SOX year

One concern of the current design may be the choice of year 2004 to represent for the post-SOX period. One could argue that the fee increase in the year 2004 is largely attributed to

SOX Section 404 which may provide an alternative explanation for our results. Although we control for disclosures of the internal control weaknesses related to SOX 404, there might be other reasons for the fee increase in 2004. As an alternative, we re-ran our analysis using 2003 as the post-SOX period. Results (not tabulated) remain unchanged relative to our original findings. The only significant difference is that the coefficient on the year dummy variable (for 2003) indicates that the increase of audit fees between 2001 and 2003 is about 35 percent (as opposed to 82 percent increase for the 2001 vs. 2004 period).

6.2 Sensitivity to the definition of the governance score

In order to increase the confidence of our results we also ran additional analyses where we use a different cut-off for the GOV indicator variable. Using a cut-off score of 5, we obtain results (not tabulated) that are qualitatively identical to our primary analysis using a cut-off of 4. Using a cut-off of 3, we obtain results (not tabulated) that are identical to a cut-off of 4 with one exception: the three-way interaction $HNAF*GOV*D4$ is no longer significant. This result suggests to us that our cut-off of 4 provides a reasonable separation between weak and good governance firms. Finally, we deleted all firms with governance scores in the middle range (4-6) and re-ran all the analyses on the remaining sample. Results of this analysis (not tabulated) remain unchanged relative to our main results.

7. Conclusion

In this paper, we consider the appropriateness of auditor-provided NAS by examining the behavior of audit fees around the time of the Sarbanes-Oxley Act of 2002. We exploit the regulatory ban on NAS to address the question of whether high levels of non-audit services purchased prior to SOX are associated with an abnormal change in audit fees after SOX.

Consistent with both the knowledge spillovers and auditor impaired judgment arguments, we find that firms that historically purchased high levels of NAS from their auditor prior to SOX experienced an abnormal increase in their audit fees after SOX.

In order to disentangle the possibility of knowledge spillovers from impaired auditor judgments, we also consider whether corporate governance quality influences the effect of NAS on audit fees. Consistent with prior evidence, our results indicate that firms with weak governance pay lower audit fees. More importantly, we find that firms with weak governance prior to SOX who pay lower audit fees in 2001, pay similar audit fees in 2004 as good governance firms (after SOX). Furthermore, we find that firms with weak governance and high NAS prior to SOX experience an abnormal increase in their audit fees after the SOX. The latter result indicates that poor governance exacerbates the extent of economic bonding between the auditor and the client and leads us to infer that auditor judgment is impaired by high NAS for some firms.

While our evidence is consistent with NAS impairing auditor's judgment, we do not directly consider whether high levels of NAS impaired the auditor's judgment or whether the regulatory ban of NAS was justified. If high pre-SOX NAS leads to impaired auditor judgment then we would expect firms purchasing high NAS to experience more reporting problems in the future relative to firms that purchased more moderate or no NAS.

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Table 1
Variable Definitions

LAF	Natural log of audit fees
D4	Indicator variable equal to one for year 2004; 0 otherwise
HNAF	Indicator variable equal to one for firms with ratio of non-audit to audit fees greater than the median; 0 otherwise
HNAF*D4	Interaction between D4 and HNAF
GOV	Indicator variable equals one if the total governance score is less than 4; 0 otherwise.
GOV*D4	Interaction between GOV and D4
HNAF*GOV	Indicator variable equals to one if firms have high NAS and weak corporate governance; 0 otherwise
HNAF*GOV*D4	Interaction between HNAFGOV (HNAF*GOV) and D4
LNSIZE	Natural log of total assets
INVREC	(Accounts receivable + inventory)/total assets
PROFIT	Net income/total assets
LOSS	Indicator variable equal to one for firms with negative net income; 0 otherwise
LEV	Long-term debt/total assets
ICW	Dummy variable that indicates firms with internal control weaknesses in the year 2003 or 2004.
BIG4	Indicator variable equal to one for a Big 4 auditor; 0 otherwise. The Big4 auditors are Deloitte Touche Tohmatsu, KPMG, PricewaterhouseCoopers and Ernst & Young,
SEG	Square root of the number of segments
IDUM	Industry membership follows Ashbaugh et al., (2003) and is determined by SIC code as follows: agriculture (0100-0999), mining and construction (1000-1999, excluding 1300-1399), food (2000-2111), textiles and printing/publishing (2200-2799), chemicals (2800-2824, 2840-2899), pharmaceuticals (2830-2836), extractive (1300-1399, 2900-2999), durable manufactures (3000-3999, excluding 3570-3579 and 3670-3679), transportation (4000-4899), retail (5000-5999), services (7000-8999, excluding 7370-7379), computers (3570-3579, 3670-3679, 7370-7379), utilities (4900-4999).

Sources: Financial data are from Compustat; audit and non-audit fee data are from Audit analytics database; corporate governance data are from The Investor Responsibility Research Center (IRRC)

Table 2
Sample Selection

	Number of firms
Initial Sample	5,396
Firms in the financial sector, firms with missing observations and ex-Andersen clients.	1,734
Firms not in IRRC database	2,090
Non- surviving firms	781
Final sample	791

Table 3
Sample Distribution by Industry

	Number of Firms	Percent
Mining and construction	13	1.64%
Food	23	2.91%
Textiles and printing/publishing	57	7.21%
Chemicals	31	3.92%
Pharmaceuticals	31	3.92%
Extractive	16	2.02%
Durable manufactures	209	26.42%
Transportation	35	4.42%
Utilities	46	5.82%
Retail	115	14.54%
Services	59	7.46%
Computers	154	19.47%
Other	2	0.25%
Total	791	100%

Table 4
Sample Descriptive Statistics

Variable Description (Names)	N	2001			2004		
		Mean	Median	Std Dev	Mean	Median	Std Dev
<i>Panel A: Continuous Variables</i>							
<i>Fee Variables:</i>							
Audit fees (AF) [\$ thousands]	1,582	\$1,113	\$490	\$2,209	\$3,094	\$1,364	\$5,941
Non-audit fees (NAF)	1,582	2,872	700	7,282	1,234	441	3,184
Natural log of AF (LAF)	1,582	13.22	13.1	1.06	14.21	14.13	1.14
Natural log of NAF (LNAF)	1,582	13.49	13.46	1.95	12.85	12.99	1.82
Ratio of NAF/AF (RATIO)	1,582	2.27	1.48	3.31	0.50	0.31	1.24
<i>Other Variables:</i>							
Total Assets [\$ million] (TA)	1,582	5,388	1,189	21,732	6,270	1,491	28,999
Natural log of TA (LNSIZE)	1,582	7.25	7.08	1.48	7.44	7.31	1.49
[Accts Rec + Inventory]/TA (INVREC)	1,582	0.25	0.24	0.17	0.25	0.23	0.16
Net Income/TA (PROFIT)	1,582	(0.009)	0.03	0.32	0.04	0.05	0.12
Long term debt/TA (LEV)	1,582	0.19	0.18	0.18	0.18	0.16	0.17
Square root of segments (SEG)	1,582	1.57	1.73	0.54	1.58	1.73	0.55
<i>Panel B: Categorical Variables</i>							
Variable Names	N	2001		2004			
		N	Percent	N	Percent		
LOSS	226	29		126	16		
BIG4	772	98		770	97		
HNAF	395	50					
ICW				46	6		
GOV	359	45					

Table 5
Pearson Correlations

	HNAF	LNSIZE	INVREC	PROFIT	LEV	SEG	BIG4	LOSS	GOV
LAF	0.12 ***	0.72***	0.01	0.05*	0.17***	0.43***	0.06**	(0.07)***	(0.35)***
HNAF	1	0.20***	(0.13)***	(0.02)	0.01	0.06**	0.12***	0.03	(0.08)***
LNSIZE		1	(0.11)***	0.10***	0.24***	0.40***	0.09***	(0.15)***	(0.42)***
INVRE C			1	0.12***	(0.16)***	0.06**	(0.07)***	(0.12)***	(0.02)
PROFIT				1	(0.04)	0.05**	(0.02)	(0.42)***	(0.04)
LEV					1	0.15***	0.07***	0.06**	(0.13)***
SEG						1	0.01	(0.07)***	(0.22)***
BIG4							1	0.02	(0.05)**
LOSS								1	0.05**
GOV									1

*** p-value<0.01, ** p-value<0.05, * p-value<0.10

Table 6
Test of Hypothesis 1
Effect of SOX on Audit Prices

	Predicted Sign	Estimate	Error	t Value	Pr > t	
Intercept		8.55	0.35	24.28	0.000	***
D4	+	0.82	0.04	18.83	0.000	***
HNAF	-	-0.17	0.04	-3.86	0.000	***
HNAF*D4	+	0.18	0.06	2.97	0.003	***
LNSIZE	+	0.58	0.01	46.34	0.000	***
INVREC	+	0.96	0.11	8.43	0.000	***
PROFIT	-	-0.20	0.07	-2.77	0.006	***
LOSS	+	0.15	0.04	3.47	0.000	***
LEV	+	0.24	0.10	2.43	0.015	**
ICW	+	0.34	0.07	5.14	0.000	***
BIG4	+	0.07	0.10	0.72	0.474	
SEG	+	0.25	0.03	7.31	0.000	***
F Value		201.22				
Adj R-Sq		0.74				
N		1582				

This table reports the regression results for model (1) using pooled cross-sectional OLS. The OLS regression includes unreported dummy variables for the SIC codes. In this table, the subscript i identifies firms, whereas subscript t identifies the time period. We perform two-tail tests for all the variables.

*** p-value<0.01, ** p-value<0.05, * p-value<0.10

Table 7
Test of Hypothesis 2
Effect of Governance and SOX on Audit Prices

	Predicted Sign	Estimate	Error	t Value	Pr > t 	
Intercept		8.85	0.36	24.51	0.000	***
D4	+	0.90	0.04	21.63	0.000	***
GOV	-	-0.16	0.05	-3.39	0.001	***
GOV*D4	+	0.02	0.06	0.40	0.686	
LNSIZE	+	0.55	0.01	42.69	0.000	***
INVREC	+	0.99	0.11	8.69	0.000	***
PROFIT	-	-0.19	0.07	-2.71	0.007	***
LOSS	+	0.14	0.04	3.20	0.001	***
LEV	+	0.26	0.10	2.62	0.009	***
ICW	+	0.34	0.07	5.15	0.000	***
BIG4	+	0.01	0.10	0.12	0.903	
SEG	+	0.24	0.03	7.07	0.000	***
F Value		201.65				
Adj R-Sq		0.74				
N		1582				

This table reports the OLS regression results for model (2a). The OLS regression includes unreported dummy variables for the SIC codes. In this table, the subscripts *i* identifies firms. We perform two-tail tests for all the variables. *** p-value<0.01, ** p-value<0.05, * p-value<0.10

Table 8
Test of Hypothesis 3
Effect of Governance and SOX on Audit Prices

	Predicted Sign	Estimate	Error	t Value	Pr > t	
Intercept		8.87	0.36	24.59	0.000	***
D4	+	0.88	0.04	25.31	0.000	***
HNAF	-	-0.04	0.04	-0.82	0.410	
GOV	-	-0.10	0.05	-2.12	0.034	**
HNAF*GOV	-	-0.20	0.07	-2.71	0.007	***
HNAFGOV*D4	+	0.19	0.08	2.46	0.014	**
LNSIZE	+	0.56	0.01	42.55	0.000	***
INVREC	+	0.96	0.11	8.46	0.000	***
PROFIT	-	-0.20	0.07	-2.87	0.004	***
LOSS	+	0.14	0.04	3.23	0.001	***
LEV	+	0.25	0.10	2.50	0.013	***
ICW	+	0.35	0.07	5.19	0.000	***
BIG4	+	0.05	0.10	0.47	0.640	
SEG	+	0.24	0.03	7.04	0.000	***
F Value		187.70				
Adj R-Sq		0.75				
N		1582				

This table reports the OLS regression results for model (2b). The OLS regression includes unreported dummy variables for the SIC codes. In this table, the subscripts *i* identifies firms. We perform two-tail tests for all the variables. *** p-value<0.01, ** p-value<0.05, * p-value<0.10