

## **Costs of Complying with the Sarbanes-Oxley Act**

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### **Abstract**

Managers, investors, and regulators have expressed concerns about the high costs of complying with the Sarbanes-Oxley Act of 2002 (SOX). This paper introduces a new measure of actual compliance costs to facilitate an objective large-scale study of accelerated filers. We find that (i) the annual SOX compliance costs range, on average, from 0.289% to 0.618% of sales in each of the four years after SOX was enacted, (ii) compliance costs exhibit substantial variation across firms and industries, (iii) firms that reported deficiencies in internal controls had significantly higher compliance costs, and, (iv) smaller firms incurred greater SOX compliance costs relative to sales than larger firms. For the majority of accelerated filers, we document significant SOX compliance costs that exceed the SEC's expectations of compliance costs. Nevertheless, we also find that almost one out of every four accelerated filers had costs as low as the SEC expectations in each of the compliance years. This empirical evidence is useful in considering future amendments to SOX and in expanding our knowledge about the economic implications of securities' regulations.

## Costs of Complying with the Sarbanes-Oxley Act

### 1. Introduction

Questions about the economic impact of the Sarbanes-Oxley Act of 2002 (SOX) and its potential amendments have drawn attention to the actual costs of compliance with SOX requirements. These questions are part of a larger debate about the efficacy of securities regulation in improving upon private contracting and whether the interests of regulators align with those of shareholders.<sup>1</sup> Understanding the economic impact of SOX is particularly important because many believe it is the most far reaching securities law since the Securities Acts of 1933 and 1934.<sup>2</sup> Further, many business and public leaders have expressed concerns about the law's cost to business. Joseph Grundfest, a former Securities and Exchange Commissioner, argued that the cost of complying with Section 404 of SOX, in particular, appears to have surprised the Securities and Exchange Commission (SEC) which initially estimated the cost of complying with SOX, Section 404(a), to be approximately \$91,000 per filer (Grundfest, 2006; Grundfest and Bochner, 2007).<sup>3</sup> Studies of SOX compliance costs, however, have either used a small sample of firms that voluntarily disclosed compliance costs (e.g., Krishnan et al., 2008), or they have focused on only a portion of the compliance costs, such as audit fees (e.g., Griffin and Lont, 2007), or they have inferred whether expected net costs are greater than zero

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<sup>1</sup> For example, see Stigler (1964), Benston (1973) and Schwert (1981), who study the benefits of the Securities Acts of 1933 and 1934. Also, see Bushee and Leuz (2005), who examine the costs and benefits of extending disclosure requirements to Over-the-Counter Bulletin Board firms in 1999, and Greenstone et al. (2006), who examine the costs and benefits of the 1964 Securities Acts Amendments.

<sup>2</sup> SOX affects financial reporting and auditing and extends federal law into substantive corporate governance, which has traditionally been the domain of the states (Romano, 2005). An exception to the states' domain over corporate governance is the Foreign Corrupt Practices Act of 1977, which requires that public firms have adequate internal accounting controls and have accounting records that accurately and fairly represent transactions (Maher, 1981).

<sup>3</sup> Section 404(a) requires management to report its assessment of the adequacy of the firm's internal controls. See the Appendix for a summary of the entire law.

based on investors' responses to legislative events (e.g., Zhang, 2007; DeFond et al., 2008).

By contrast, this study presents a large sample documentation of actual SOX compliance costs. We report costs incurred by 1,493 U.S. accelerated filers during the first four years after SOX was enacted, and we show differences in compliance costs due to industry membership, the reporting of internal control deficiencies and size.

In view of the limitations of existing studies in documenting the actual costs of SOX compliance, we start by documenting those costs. Our estimates of actual costs of SOX compliance are 0.289%,<sup>4</sup> 0.501%, 0.618%, and 0.371% of sales, in the four years after SOX was enacted in 2002, respectively. These costs are significantly greater than zero in each of the four years. To provide some insight into the dollar amounts of compliance costs, the median costs of compliance in each of the four compliance years are \$1.3 million, \$2.3 million, \$3.0 million, and \$1.8 million, respectively. Our findings suggest that, for most accelerated filers, SOX compliance costs exceeded the SEC's expectations of \$91,000 per firm (United States Securities and Exchange Commission, 2003).<sup>5</sup> SOX compliance costs incurred by financial institutions were higher than those incurred by manufacturing firms in each of the four compliance years. On the other hand, compliance costs incurred by utilities were not significantly different from zero in all four compliance years. By and large, the results indicate a wide variation in the level of SOX compliance costs incurred by firms.

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<sup>4</sup> To clarify, 0.289% is 289/1,000<sup>th</sup> of one percent of sales.

<sup>5</sup> The SEC's estimate is for compliance with Section 404(a) while our estimate is for compliance with the entire regulation. Further, the SEC's estimate appears to include all firms, not just accelerated filers. Cutting off non-accelerated filers and considering all compliance costs in computing the estimated average cost would likely increase the estimate above \$91,000. We consider the \$91,000 to be a conservative benchmark for determining the costliness of compliance.

We hypothesize that firms reporting internal control deficiencies would have higher compliance costs than those that did not. Grundfest and Bochner (2007) suggest that firms with internal control deficiencies and their auditors might face greater litigation risk than non-deficiency firms, thereby giving auditors and managers incentives to over-invest in improving internal controls compared to the socially optimal investment in internal controls. Thus, high compliance costs might serve as a signaling mechanism. In a similar vein, net marginal benefits (marginal benefits minus marginal costs) of improving internal controls in these firms is likely to be greater than in firms that do not have internal control deficiencies. We find that, indeed, firms reporting internal control deficiencies do have significantly higher compliance costs than those that do not.

Regulators and others contend that smaller firms have a disadvantage in complying with SOX due to a fixed component in compliance cost structure (e.g., Jonas, 2006). Our results support this argument and indicate that the smaller firms incur SOX compliance costs (relative to sales) that are, on average, significantly greater than those incurred by larger firms. The results corroborate prior evidence of a size effect on compliance costs (Eldridge and Kealey, 2005; Engel et al., 2007).

Although our findings reveal that the majority of accelerated filers exceeded the SEC's compliance cost expectations, compliance costs of 346 accelerated filers (23.2% of the 1,493 sample firms) were lower than \$91,000 in each of the four compliance years. Further, only 9.0% of those low compliance cost firms reported internal control deficiencies. In contrast, 35.7% of the firms whose costs exceeded the SEC's expectations reported internal control deficiencies. Thus, a considerable subset of

accelerated filers met the SEC's expectations and those firms had better-quality internal controls.

Our findings complement previous studies on cost aspects of SOX (e.g., Zhang, 2007; Engel et al., 2007; Gao et al., 2007; Hansen et al., 2008). Overall, the evidence shows considerable variation in compliance costs imposed by SOX on different industries and firms. The results contribute to our knowledge about the cost effects of securities regulation and, in particular, corporate governance regulation.

To facilitate this study, we introduce a proxy of SOX compliance costs. Specifically, we estimate cumulative abnormal selling, general and administrative expenses (SGA) after removing advertising and executive compensation and controlling for the effects of changes in activity volume and inflation. Admittedly, this measure of compliance costs is crude; nevertheless, it provides an objective measure of actual compliance expenses. Section 5 presents the new measure and several reasonableness checks to confirm the appropriateness of the proposed proxy.

Although our approach enables a large scale study of SOX compliance costs, it has a number of limitations, and there are many things that this paper does not do. We use data from financial statements, which are expenses, not costs. Given the nature of these expenses—audit fees, consulting fees and personnel costs, we expect that expenses and out of pocket costs are well matched. If not, perhaps because firms have invested in long-term assets to facilitate SOX compliance, then our measures understate the costs of SOX compliance. Another understatement is that expenses do not measure the opportunity costs of time spent on SOX instead of on business activities that improve value. Further, financial statement expenses report the supply of resources instead of the

use of resources. Expenses could over- or under-estimate the costs of compliance because of the step feature of personnel salary costs. Given the size of our sample, we assume that these under- and over-statements of compliance costs wash, but we do not know that they do.

This paper is organized as follows. Section 2 provides institutional background about SOX that indicates why we expect firms to incur SOX compliance costs. This section also summarizes important compliance dates. Section 3 discusses related literature on the costs of SOX and shows how our study complements the extant literature. In Section 4, we develop the hypotheses that internal control deficiencies and firm size affect SOX compliance costs. Sections 5 and 6 discuss research methods and findings. Section 7 presents concluding remarks. The Appendix to the paper summarizes the SEC and Public Company Accounting Oversight Board (PCAOB) pronouncements relevant to measuring SOX compliance costs and presents the key SOX compliance deadlines.

## **2. Institutional background on the costs of complying with the Sarbanes-Oxley Act**

### **2.1 SOX Provisions**

President George Bush signed SOX into law on July 30, 2002. The Appendix summarizes the law's provisions, which contains 11 "titles" or major sections. Many of these provisions required compliance costs soon after the law was passed. For example, Title III, "Corporate Responsibility," contains the well known Section 302. Section 302 requires the principal executive and financial officers to certify that each quarterly and annual report does not contain untrue statements of material facts nor omits any material

fact required to make the statements true. Also, Section 302 states that these officers are responsible for establishing and maintaining a system of internal controls, and that they have to disclose any deficiencies in internal controls or any fraud (whether material or not) to the company's auditors. These requirements create incentives for costly improvements in financial reporting processes and internal controls, depending on a company's quality of internal controls and financial reporting, as well as management's comfort with that quality.

Perhaps the greatest controversy about the cost of complying with SOX dealt with Section 404, which requires that management report its assessment of the adequacy of internal controls and mandates that the firm's auditors attest to those reports. Articles in the business press and comments sent to the Securities and Exchange Commission (SEC) indicate that complying with Section 404 would require substantial payments to external consultants, increasing information technology costs, higher internal audit staff costs and increased audit fees (e.g., Harrington, 2004). Although compliance with Section 404 was delayed more than two years after SOX was enacted for companies with a public float of \$75 million or more, and later for companies with less public float, companies had to begin the process of complying with Section 404 soon after SOX was signed into law because potential delays in the compliance deadline were uncertain (see Table 1). Considering both Sections 302 and 404, it seems likely that companies were incurring costs of complying with SOX shortly after the July 30, 2002, enactment.

In addition to requiring reports and attestation of reports on internal controls, Title IV requires that companies disclose off-balance sheet transactions, that they reconcile pro forma figures with GAAP figures, and make a number of other disclosures. Title II,

“Auditor Independence,” substantially restricts the type of non-audit services that may be provided by the company’s audit firm. If the audit firm was the optimal provider of those services, then the company would have to incur higher costs to obtain the same services. Some of the law’s provisions would most likely increase audit fees. These provisions include Section 404 which requires the auditor to attest to management’s report on internal controls, as noted above. Further, the restriction on non-audit services in Title II could mean that the auditor does more work to verify the quality of internal audit or other services provided by the client company or another firm instead of by the auditor’s firm.

## **2.2 Key Compliance Dates**

After calls for accounting reforms by the SEC Chairman and the Secretary of the Treasury, among others, Congressman Michael Oxley introduced an accounting reform bill in the House Financial Services Committee on February 13, 2002. Developments over the next several months ultimately led to the bill that became known as Sarbanes-Oxley, named after Senator Paul Sarbanes and Congressman Michael Oxley. A key development to the bill’s passage was WorldCom’s revelation, on June 25, 2002, that it had understated expenses by \$3.8 billion. Over the next month, President Bush and Congress pushed for the passage of SOX, which President Bush signed into law on July 30, 2002.

Table 1 shows a sequence of SEC announcements regarding SOX. The Appendix presents more details about those announcements, as well of those of the Public Company Accounting Oversight Board (PCAOB), which was established by SOX in Title I. Over time, many of the dates for complying with Section 404 were deferred as the SEC received mounting criticism from the business community about the costs of compliance.

In the end, the SEC required that the start date for complying with Section 404 would be the fiscal year ending November 15, 2004 for accelerated filers (i.e., firms with a public float of \$75 million or more). A filer whose fiscal year ended November 30, 2004 would be expected to comply with Section 404 in its annual report for the year ended November 30, 2004. A filer whose fiscal year ended October 31, 2004 would not be expected to comply until its fiscal year ended October 31, 2005.

### **3. Review of the Literature on the Costs of Compliance with SOX**

#### **3.1 Academic Literature**

We categorize the academic literature as follows: (1) studies of stock and bond market reactions to events prior to the passage of SOX, which provide implications about the market's assessment of expected net benefits (benefits minus costs) to shareholders and bondholders; (2) studies reporting how managers have taken actions to avoid compliance with SOX, which imply that managers expect the costs of complying with SOX to exceed the benefits; and (3) studies providing information about the actual costs of SOX compliance.

Studies in the first category include Zhang (2007), who examines stock market reactions to events leading to passage of SOX, and DeFond et al. (2008), who study the net benefits expected by bondholders. These two studies provide evidence that shareholders and bondholders, respectively, expected the net benefits of SOX to be negative. Further, Zhang (2007) interprets her cross-sectional evidence as consistent with the notion that the SOX provisions on non-audit services, corporate responsibilities and internal controls impose net costs on firms. Supporting that line of reasoning, Litvak

(2007a) finds that foreign firms listed on U.S. exchanges and subject to SOX experienced more abnormal negative returns around key dates leading up to the passage of SOX than foreign firms not subject to SOX. Litvak (2007b) also finds that market/book ratios and Tobin's  $q$  for declined for foreign firms subject to SOX compared to those not subject to SOX during 2002. On the other hand, Jain and Rezaee (2006) and Li et al. (2008) conclude that investors expected SOX to have a net beneficial effect.

Although they do not look at the costs of SOX, Ashbaugh-Skaife et al. (2007b) show a potential benefit of SOX in their findings that an improvement in internal control effectiveness results in a lower cost of equity. However, Ogneva et al. (2008) report that internal control deficiencies are not directly associated with a higher cost of capital. Overall, the results in this category of study leave room for questions about the costs and benefits of SOX (Leuz, 2007).

Studies in the second category provide evidence that managers took action to avoid complying with SOX, implying that the costs of complying with SOX exceeded the benefits. This behavior might be considered the 'unintended consequences' of SOX. Engel et al. (2007) provide evidence that the frequency of firms going private increased after the passage of SOX. Leuz et al. (2008) show that the firms going private mostly were going dark (i.e., deregistering from the Securities and Exchange Commission (SEC), but continuing to trade in the Over-the-Counter (OTC) market). Gao et al. (2007) find that non-accelerated filers went to considerable lengths to stay below the \$75 million threshold. Staying below the \$75 million public float threshold enabled these firms to defer compliance with Section 404 of SOX, as shown in Table 1 and discussed in Part C of the Appendix. These studies show that many firms apparently have gone to great

lengths to avoid having to comply with SOX or at least to defer compliance, indicating potentially high compliance costs.

Unlike studies in the first two categories, which provide insights into *expected* costs and benefits of complying SOX, studies in the third category provide information about the actual costs of SOX compliance. Although they look at only a subset of the costs that we consider, these studies are in the same spirit as our examination.

Raghunandan and Rama (2006), Griffin and Lont (2007), and Griffin et al. (2008) look at audit fees, which are one component of the costs of complying with SOX. Taking a different path, Krishnan et al. (2008) look at the costs of complying with Section 404, only, based on a small sample of 172 accelerated and non-accelerated filers that voluntarily reported Section 404 compliance costs. By contrast, we examine the costs of complying with all of SOX's provisions for a sample of 1,493 firms.

Our study extends prior literature because we investigate a large sample of firms (in contrast with a potential self-selection problem caused by voluntary disclosures), we examine the total costs of compliance (not just audit fees), and we examine actual compliance costs (instead of inferring net expected costs from investors' behavior).

### **3.2 Practitioners' surveys**

Many managers and auditors claim that SOX compliance has been considerably more costly than the \$91,000 initially estimated by the SEC based on its Paperwork Reduction Act cost estimates (Grundfest and Bochner, 2007).<sup>6</sup> We discuss three sets of surveys by professional organizations. As will become clear, these surveys do not substitute for our empirical tests, but they do provide data for us to do reasonableness

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<sup>6</sup> For examples of these claims about the high costs of compliance, see the SEC releases listed in Part B of the Appendix to this paper.

tests on our results. These surveys refer only to Section 404 compliance costs, not costs of complying with other requirements of SOX.

These surveys have several limitations that make their findings at least somewhat questionable. Their samples tend to be small, ranging from 124 to 280 firms. Participants either self-selected to respond to a questionnaire or self-reported Section 404 compliance costs in their SEC filings and public announcements. The surveys do not report how the demographics of respondents compare to a population of SEC filers. The surveys do not provide clear definitions of reported costs, their components, and their reliability and validity tests (if any).

A study by the consulting firm of A.R.C. Morgan (2005) investigated approximately 280 filings that reported SOX compliance costs for 2004. The firm found that filers with sales in the \$250 - \$500 million range of sales incurred Section 404 compliance costs of approximately 0.36% – 0.68% of sales, whereas those in the \$7 – \$10 billion range incurred compliance costs of about 0.10% – 0.14% of sales (A.R.C. Morgan, 2005). This pattern in which larger firms incur lower costs per dollar of sales than smaller firms appears in the other surveys as well. We examine the validity of this alleged relationship of costs and size in our study.

Financial Executives International (FEI) surveyed 205, 238 and 172 accelerated filers in 2004, 2005 and 2006, respectively (Financial Executives International, 2007). For 2006, the survey found that compliance costs were approximately 0.32% of sales for companies with sales in the \$100 - \$500 million range, whereas those in the \$5 - \$15 billion range incurred compliance costs approximating 0.03% of sales. Overall compliance costs were 35% lower for the firms in the FEI's 2006 survey compared to

those responding in 2004; however, the respondents are not the same in those two years, which makes precise comparisons impossible.

A survey by CRA, International (2006) reported Section 404 compliance costs to be 0.38% of sales in the first year of compliance and 0.24% in the second year of compliance. Again, it is difficult to compare the year-to-year results because the surveyors did not use a panel of firms.

The three surveys together appear to indicate that: (1) the average compliance costs were in a wide range of 0.03% to 0.68% of sales; (2) compliance costs were higher in 2004, which was the first year of compliance for many accelerated filers, compared to costs in subsequent years; and (3) compliance costs, as a percent of sales, were higher for smaller firms than for larger firms. This latter conclusion that smaller firms incur higher compliance costs after scaling for size is consistent with the SEC's statements in their releases and with a study by the United States General Accountability Office (2006).

These surveys provide some insights into firms' compliance activities. The FEI study found the respondents reported auditor attestation fees to be 35% of total Section 404 compliance costs over the three year period 2004-2006 (Financial Executives International, 2007). The FEI survey also indicates that, in 2006, internal information technology consulting was 6%, internal auditing was 12%, and other internal costs were 13% of total Section 404 compliance costs. Firms also incurred costs of external consultants and other vendors for information technology controls and documentation and other Section 404 compliance, according to the FEI survey. The CRA survey over two years, 2004 and 2005, found the auditor attestation fees to be 27% (36%) of total Section 404 compliance costs for larger (smaller) firms, where the study categorized

smaller firms to be those with a public float greater than \$75 million and less than \$700 million.

In summary, the review of the extant academic and practitioner literature leads us to conclude that, so far, our knowledge about the costs of SOX compliance is limited. Current evidence is based on small and self-selected samples that are subject to bias and use self-reported data (Krishnan et al., 2008; Financial Executives International, 2007; CRA International, 2006; and A.R.C. Morgan, 2005). This study addresses these problems to reveal the actual costs of complying with SOX and their sources of variation.

#### **4. Objectives and Hypotheses**

The vast majority of SOX compliance expenses are reported in the financial statement category, “selling, general and administrative” (SGA) expenses. If the compliance costs are economically meaningful, then we should be able to detect an abnormal increase in SGA expenses reflecting SOX compliance costs. Not finding such an abnormal increase could cast doubts on the validity of the survey data cited above or on our measure of SOX compliance costs (discussed in Section 5). If we find evidence of significant abnormal SGA costs, then we search for a sequential pattern of cost behavior and examine whether SOX imposes compliance costs uniformly on all firms.

Particularly, we examine variation among industries and address two hypotheses: the internal control deficiency hypothesis and the smaller firm hypothesis.

##### **4.1 The Internal Control Deficiency Hypothesis**

The existence of an internal control deficiency (ICD) indicates an environment with weak internal controls. In such an environment, managers may not prevent or detect

a material misstatement of the annual or interim financial statements. In the presence of weak internal controls, managers make discretionary choices with respect to the level of resources invested in repairing the process of financial reporting. Therefore, firms are likely to invest more resources to improve the quality of financial statements in the presence of an ICD than firms with no ICDs. Auditors, who were broadly criticized for a rash of audit failures, also have incentive to insist on investments in improving internal controls in firms that report deficiencies. Both managers and auditors are subject to significant litigation risk and personal exposures (Grundfest and Bochner, 2007), thereby giving managers and auditors private incentives to heavily invest in internal controls. High compliance costs are also likely to signal the market that considerable resources are invested in upgrading internal controls, hence improving the quality of financial statements. In other words, we expect greater marginal benefits from improving internal controls in firms with ICDs than in firms that do have no ICDs. Thus, existence of ICDs results in higher compliance costs. The following hypothesis summarizes the above arguments.

*H1: Firms with internal control deficiencies incur greater costs of complying with SOX than those firms that do not have internal control deficiencies.*

#### **4.2 The Smaller Firm Hypothesis**

Regulators and practitioners' surveys claim that smaller firms incur greater compliance costs than larger firms, relative to firm size.<sup>7</sup> These claims appear to derive from a cost construction argument which presumes that a portion of compliance efforts does not increase proportionately with firm size (Engel et al., 2007). That is to say that a

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<sup>7</sup> For example, see the SEC releases listed in items 13, 14, 16, 20 and 21 in the Appendix to this paper. Also, A.R.C. Morgan (2005) and the report of the Advisory Committee on Smaller Public Companies (2006).

compliance process has a setup cost component. Further, these claims seem to presume that smaller firms start with weaker controls and must do relatively more work than larger firms to comply with SOX (Jonas, 2006; Beneish et al., 2008). Countering this argument is the idea that, even if smaller firms have less extensive controls, larger firms have greater litigation exposure so they require better controls all other things constant. Further, larger firms tend to have more foreign operations and diverse business units which create operational complexity. Operational complexity, in itself, creates a greater demand for internal controls (Ashbaugh-Skaife et al., 2007a; Doyle et al., 2007). Also, larger firms might incur relatively greater compliance costs than smaller firms because larger firms have greater political exposure than smaller firms. Political exposure provides incentives for managers to over invest in regulatory compliance compared to smaller firms with less political exposure. Although there are claims that smaller firms are burdened more by SOX than larger firms, we consider this to be an open question, and so test the following hypothesis:

*H2: Costs of complying with SOX are negatively related to firm size, ceteris paribus.*

Only accelerated filers were required to comply with SOX as of November 15, 2004. Therefore, all firms in our sample are, by many standards, large firms. Accordingly, our examination does not relate to small firms with public float of \$75 million or less.

## **5. Research Design**

### **5.1 Selection of Compliance Years**

The SEC deferred the required date for compliance with Section 404 several times, as shown in Table 1 and the Appendix. The SEC finally required that accelerated filers first comply with Section 404 in the fiscal year ending on or after November 15, 2004. We study four years of compliance activities, starting with the first fiscal year after SOX was enacted (i.e., fiscal years ending between November 15, 2002 and November 14, 2003) through the first fiscal year after compliance with Section 404 was due. We define the year in which Section 404 compliance was first required as “compliance year 0”, and label the other years as follows:

Compliance year = -2 for fiscal years ending between November 15, 2002 and November 14, 2003,

Compliance year = -1 for fiscal years ending between November 15, 2003 and November 14, 2004,

Compliance year = 0 for fiscal years ending between November 15, 2004 and November 14, 2005, and,

Compliance year = +1 for fiscal years ending between November 15, 2005 and November 14, 2006.

### **5.2 Sample Selection**

In September 2002, the SEC introduced the concept of accelerated and non-accelerated filers (Release No. 33-8128). Accelerated filers are reporting firms with public float of at least \$75 millions measured as of the last business day of their most recently completed second fiscal quarter. As shown in Table 2, our panel of firms has

1,493 accelerated filers with positive sales and SGA in the four compliance years noted above and two earlier years as required by our measure of compliance costs detailed in equation (3) below.<sup>8</sup> We used the EDGAR database to verify the accelerated filer status of each sample firm. A constant firm sample is useful in examining temporal trends of compliance costs as well as comparing firm categories to ascertain variations in compliance costs.

### 5.3 Proxy for Actual Costs of SOX Compliance

We introduce a new measure of SOX compliance costs. In implementing SOX requirements, firms hire employees, pay external consultants, upgrade their software applications, and pay external auditors to attest to new internal control reports and to assess and reduce risks embedded in asset accountability and the financial reporting process. We call these *actual* costs of compliance and expect them to appear in SGA expenses on income statements. In searching for a proxy of SOX compliance costs, we focus on an abnormal increase in SGA expenses during the SOX implementation period that would otherwise be unexpected under a firms' business environment. That is, we employ estimates of abnormal SGA expenses reported on firms' income statements as the basis for a proxy of SOX compliance costs. Note that we are looking at expenses reported on the income statement, not opportunity costs. A full cost of compliance would, of course, take the opportunity costs of resources consumed in the compliance activities (Vera-Munoz, 1998).

We start by estimating abnormal changes in SGA expenses after the SOX was enacted in 2002. SGA includes discretionary expenses unrelated to SOX, such as

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<sup>8</sup> Foreign firms are excluded from our sample because their SOX compliance due dates were deferred – see Part C of the Appendix.

advertising, which could vary considerably from year to year and, at minimum, add noise to our analysis. We identify and subtract advertising from SGA in our proxy. Another expense, that is at least somewhat discretionary, is the compensation of the senior five executives, which we also eliminate from our proxy. There are provisions of SOX that might lead to increases in executive compensation, but Cohen et al. (2007) and Carter et al. (forthcoming) report that SOX did not affect the level of executive compensation. If SOX did increase executive compensation, then our proxy underestimates the costs of SOX compliance.

By using first-differences, we control for the cost drivers that created the prior year's level of SGA expenses. We control for changes in SGA expenses as a function of changes in activity volume, proxied by sales, as shown in equation (2) below. We also adjust SGA and other dollar amounts used in computing our proxy for inflation, stating all amounts in year  $t$  dollars (Konchitchki, 2007).

For each firm-year observation, we compute Net SGA expenses; that is, SGA expenses minus advertising expenses and senior managers' compensation:

$$\text{NSGA}_{it} = \text{SGA}_{it} - \text{ADV}_{it} - \text{COMP}_{it}, \quad (1)$$

where NSGA are Net SGA expenses and SGA is Compustat variable #189 for the  $i$ th firm in year  $t$ . ADV is Compustat variable #45, and COMP equals the aggregate top five executives compensation taken from ExecuComp. Many of the firms did not have available data in ExecuComp. For firms with missing data in ExecuComp, we used the following procedure to estimate compensation of the top five executives. We sorted firm-year observations for each year into five portfolios according to their market capitalization of equity. In each portfolio, we deflated the mean value of compensation

by sales which we then assigned to each firm-year observation not covered by ExecuComp.

Taking a managerial accounting point of view, we employ the conventional fixed-variable costs model to estimate abnormal changes in NSGA, thereby accounting for changes in activity volume. Specifically, we estimate the expected increase or decrease in NSGA resulting from a change in sales, which is an imperfect proxy for activity volume (Anderson et al., 2003). For each observation, we estimate the slope of the cost function in year  $t-1$ :

$$\text{SLOPE}_{i,t-1} = (\text{NSGA}_{i,t-1} - \text{NSGA}_{i,t-2}) / \Delta \text{SALE}_{it}. \quad (2)$$

where,

$$\Delta \text{SALE}_{i,t} = \text{SALE}_{i,t-1} - \text{SALE}_{i,t-2}.$$

The fixed-variable costs model assumes that the slope is positive and smaller than one (Anderson and Lanen, 2007). Accordingly, we winsorize the slope at zero and one. We employ the slope for computing abnormal changes in the NSGA:

$$\Delta^{\text{abn}} \text{NSGA}_{it} = [\text{NSGA}_{it} - (\text{NSGA}_{i,t-1} + \Delta \text{SALE}_{it} \times \text{SLOPE}_{i,t-1})] / \text{SALE}_{i,t-1}, \quad (3)$$

That is,  $\Delta^{\text{abn}} \text{NSGA}$  = abnormal changes in Net SGA expenses.

The expression in the parentheses in (3) is the expectation for NSGA for firm  $i$  in compliance year  $t$  based on NSGA in compliance year  $t-1$  and the change in sales in year  $t$ . Accordingly,  $\Delta^{\text{abn}} \text{NSGA}_{i,t}$  expresses the percentage of abnormal change in NSGA. It is assumed to comprise extra costs of resources consumed to meet SOX requirements.

We adjust all figures for inflation to control for a potential increase in SGA expenditures due to increase in prices. Accordingly, all figures used in computing

$\Delta^{\text{abn}}\text{NSGA}$  of firm  $i$  in year  $t$  are inflation-adjusted and stated in dollars of year  $t$ . Further,  $\Delta^{\text{abn}}\text{NSGA}$  is trimmed at -10% and 10% because large abnormal changes in NSGA are likely to be generated by other cost drivers, not resources consumed in the SOX compliance process. For instance, promotion costs due to penetrating a new market segment, costs of new customer acquisitions, or costs of introducing a new product are likely to result in high SGA expenditures, which are not SOX compliance costs.

Now, we compute our proxy for annual SOX Compliance Costs, denoted SCC, by accumulating abnormal changes in NSGA over the compliance years. For the earliest compliance year  $t = -2$  we get  $\text{SCC}_{i,t-2} = \Delta^{\text{abn}}\text{NSGA}_{i,t-2}$ . Accordingly, annual costs of SOX compliance equal to the cumulative abnormal changes in SGA:

$$\text{SCC}_{it} = \sum_{k=-2}^t \Delta^{\text{abn}}\text{NSGA}_{ik}, \quad t = -2, -1, 0, 1 \quad (4)$$

We use SCC as our proxy for annual costs of SOX compliance in the four compliance years examined in this study. We note that the value of  $\text{SCC}_{i,t=-2}$  depends on data in two earlier years.

The proposed proxy has appealing advantages. First, SCC is an objective measure of SOX compliance costs. Second, we use public data reported in financial statements to estimate SOX compliance costs, rather than rely on questionnaires or perhaps biased voluntary disclosures. Third, the proposed proxy facilitates a large-scale study to examine differences between firms in consuming resources invested in SOX compliance activities, trends over time, and for testing both hypotheses stated above.

#### **5.4 Reasonableness Tests of the SOX Compliance Proxy**

Our proxy of annual costs of SOX compliance, SCC, is based on accumulating abnormal changes in NSGA. To assess whether our measure is reasonable, we present a

simple regression model to provide evidence that NSGA of accelerated filers was, on average, higher during the SOX compliance period than in the preceding 10-year period. We control for activity levels and use December fiscal year-end firms included in our sample of accelerated filers (see Table 2), for which fiscal years and compliance years coincide. We used data from 1992 till 2005 (subject to data availability in earlier years) to estimate the following regression:

$$\text{NSGA}_{it} = \alpha + \beta_1 \text{SALE}_{it} + \beta_2 \text{DUM}_t + \varepsilon_{it} \quad (5)$$

$\text{DUM}_t$  is a dummy variable that takes a value of 1 on three compliance years after SOX was enacted, from 2002 till 2004, and 0 on other years.

We also note that a macro shock may collectively affect firms resulting in NSGA that is cross-sectionally correlated. Addressing this issue, we aggregate data across firms and estimate a time-series model of aggregated NSGA:

$$\overline{\text{NSGA}}_t = \alpha + \beta_1 \overline{\text{SALE}}_t + \beta_2 \text{DUM}_t + \varepsilon_t \quad (5a)$$

where  $\overline{\text{NSGA}}_t$  is the average NSGA per firm in year  $t$ , and  $\overline{\text{SALE}}_t$  is the average amount of sales per firm in year  $t$ .<sup>9</sup> Results reported in Table 3 indicate a positive and significant coefficient for DUM in both specifications. We conclude that NSGA of accelerated filers was significantly higher during the SOX compliance years than in the earlier decade.

Now, we examine the appropriateness of  $\Delta^{\text{abn}}\text{NSGA}$ . If  $\Delta^{\text{abn}}\text{NSGA}$  is a reasonable estimate of abnormal changes in NSGA, and if SOX is responsible for abnormal increases in NSGA during the SOX compliance period, then  $\Delta^{\text{abn}}\text{NSGA}$  should

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<sup>9</sup> We use average NSGA per firm on each year because data are not available in 1992-1999 for some of our constant firm sample.

express, on average, costs of resources consumed in the compliance process. We expect positive abnormal changes in NSGA during the SOX compliance period while abnormal changes in NSGA would be insignificantly different from zero in earlier periods. Thus, we compare the mean values of  $\Delta^{\text{abn}}\text{NSGA}$  during the SOX compliance period to its value in previous years. We computed  $\Delta^{\text{abn}}\text{NSGA}$  in 1994-2001 for our sample firms (subject to data availability on earlier years). The mean  $\Delta^{\text{abn}}\text{NSGA}$  for the eight year period, 1994-2001, equals 0.01% (p-value = 0.36), indicating an insignificant difference from zero. These findings provide some comfort that our proxy for SOX compliance costs was not significantly greater than zero in the eight years prior to the passage of SOX. On the other hand, as discussed in the next section on empirical findings,  $\Delta^{\text{abn}}\text{NSGA}$  was significantly greater than zero in the three compliance years after the passage of SOX.

We ran another reasonableness check on the use of  $\Delta^{\text{abn}}\text{NSGA}$  employing the results from our tests of the hypothesis that firms with internal control deficiencies (ICDs) had higher compliance costs than firms that did not have ICDs. We delay discussing that reasonableness check until Section 6.2 where we present our results of the hypothesis test.

### 5.5 Regression Model

To test the two hypotheses, we estimate the following regression model on a year-by-year basis, as well as for a four-year pooled sample, and control for groups of industries:

$$\begin{aligned} \text{SCC}_{it} = & \alpha + \beta_{\text{MANUF}} + \beta_{\text{FINAN}} + \beta_{\text{SERV}} + \beta_1 \text{ICD}_{it} + \beta_2 \text{MV}_{it} + \beta_3 \text{REST}_{it} + \beta_4 \text{M\&A}_{it} \\ & + \beta_5 \text{FT}_{it} + \beta_6 \text{SEG}_{it} + \beta_7 \text{RD}_{it} + \varepsilon_{it}, \end{aligned} \quad (6)$$

where,

$\beta_{\text{MANUF}}$ ,  $\beta_{\text{FINAN}}$ , and  $\beta_{\text{SERV}}$  control for the effects of membership in manufacturing, financial and service industries, respectively.

$\text{ICD}_{it}$  = a dummy variable that equals one if a firm  $i$  reports a deficiency in internal controls in compliance year  $t$ .

$\text{MV}_{it}$  = the natural log of market value of equity at fiscal year-end.

$\text{REST}_{it}$  = a dummy variable that equals one if firm  $i$  had a restructuring charge on compliance year  $t$ . We expect that a firm restructure would imply greater internal control risks and increase its costs of compliance.

$\text{M\&A}_{it}$  = a dummy variable equaling one if firm  $i$  was involved in a merger or acquisition in compliance year  $t$ . We expect firms going through mergers or acquisitions to have a more complex, hence more costly SOX compliance projects.

$\text{FT}_{it}$  = a dummy variable equaling one if firm  $i$  had foreign currency translations in compliance year  $t$ . We expect firms with foreign operations to have greater internal control risks than those that do not, implying higher compliance costs.

$\text{SEG}_{it}$  = the log of the sum of operating and geographic segments of firm  $i$  in compliance year  $t$ . We expect that firms with greater geographic dispersion and more operating segments to have greater internal control risk than those that do not, resulting in higher compliance costs.

$\text{RD}_{it}$  = research and development expenses divided by sales of firm  $i$  in compliance year  $t$ .

Following the two hypotheses, we expect the coefficient on ICD to be positive and the coefficient on MV to be negative. While we controlled for potential determinants

of compliance costs used in the literature, we also control for R&D expenditures because we expect innovation and new products to increase internal control risk and compliance costs (Hitt et al., 1996).

## **6. Empirical Results**

### **6.1 Costs of Complying with SOX**

Table 4 presents abnormal changes in NSGA for each of the four years after the passage of SOX. The pattern of costs shows positive and significant abnormal changes in NSGA in each of the three years between the passage of SOX and the required compliance with Section 404, namely, compliance years -2, -1, and 0. These amounts are first differences, so the amount in year -1 is a significant increase over year -2, which already had significant positive abnormal change in NSGA. Finally,  $\Delta^{\text{abn}}\text{NSGA}$  is negative and significant in compliance year +1, indicating a significant decline in costs in the first year after compliance was mandated.

Next we accumulated  $\Delta^{\text{abn}}\text{NSGA}$  to compute annual SOX compliance costs in each of the four compliance years after the passage of SOX. Whereas Table 4 presents first differences, Table 5 presents levels analysis that shows the cost of compliance without regard to the previous year's costs. Our results show significant positive mean compliance costs for each of the four years. Specifically, compliance costs reported in Panel A were, on average, 0.289% of sales, 0.501% of sales, 0.618% of sales, and 0.371% of sales (p-value < 5% for each year), in the four compliance years, respectively. The median dollar amounts of compliance costs in each of the four compliance years were \$1.3 million, \$2.3 million, \$3.0 million, and \$1.8 million, respectively. We

conclude that compliance costs were positive and significant in each year after SOX was enacted and most accelerated filers incurred annual compliance costs that exceeded \$91,000 per firm.

These estimates are generally in line with compliance costs reported in the practitioner surveys referenced earlier. Our cost estimates are lower than voluntary disclosures reported by Krishnan et al. (2008), even though their study was limited to Section 404 costs. One explanation is that their sample, which is considerably smaller than ours, picks up a subset of firms in which managers signal an improvement by disclosing large costs of SOX compliance activities. In general, voluntary disclosures may be associated with internal control deficiencies or motivation to signal high compliance efforts.

The comparative industry analysis presented in Panel B of Table 5 reveals that, on average, financial institutions incurred high costs of SOX compliance: 1.735%, 2.000%, 2.274%, and 1.001% of sales (all with p-value < 5%) in the four compliance years, respectively.<sup>10</sup> Compliance costs incurred by manufacturers were 0.014% (insignificant), 0.170% (p-value < 10%), 0.272% (p-value < 5%), 0.245% (p-value < 5%) of sales in the four compliance years, respectively. Financial institutions incurred compliance costs that are greater than costs incurred by manufacturing firms in each of the four compliance

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<sup>10</sup> The Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991 required US banks with assets exceeding \$500 million to issue formal reports on the adequacy of their internal controls. Altamuro and Beatty (2007) report that the internal controls reform lead to improvement in bank's earnings quality. There are reasons to believe that SOX lead banks to further invest in internal controls. First, an accelerated use of complex financial instruments during the last decade made internal controls more difficult. Second, potential high-risk loans, instruments and transactions require complex financial reporting procedures involving costly internal controls.

years.<sup>11</sup> On the other hand, costs of SOX compliance incurred by utilities were insignificantly different from zero in all four compliance years.<sup>12</sup> The results indicate a considerable variation in the level of costs imposed by SOX legislation on firms of different industries.

In view of the high compliance costs incurred by financial institutions, we re-examine our results to see if they hold after excluding financial institutions. We reran the analysis in Panel A without financial institutions, leaving 1,250 firms in the dataset. The results show a lower mean compliance costs as a percent of sales after the financial firms were removed, but the results are still statistically significant in each year. For comparison with Table 5, panel A, we found the mean percentages to be 0.008 ( $p < 10\%$ ) in compliance year -2, and 0.210, 0.296, and 0.249 (all  $p < 5\%$ ) in the next three compliance years.

The results also show that compliance costs peaked in the year of the deadline for complying with Section 404. We find an increasing cost pattern from the time SOX was enacted until the compliance due date for Section 404. Then, we find that compliance costs were lower in the year after the Section 404 compliance deadline. This is no surprise in view of the concerns about the costs of complying with Section 404. As shown in Panel B of Table 5, this timing pattern held for the three industries with significant compliance costs-- manufacturers, financial institutions, and services. This cost pattern, which holds across industries, typically reflects expedited implementation

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<sup>11</sup> To check the sensitivity of this result to the use of  $SALE_{t-1}$  as a deflator in equation (3), we replaced it with  $NSGA_{t-1}$ . Financial institutions incurred, on average, higher compliance costs than other firms under this specification as well.

<sup>12</sup> We note that there were only 73 utility firms in our sample, which may influence this result.

projects (Babu and Suresh, 1996) and a learning curve of professional employees and auditors.

## **6.2 Results from Testing the Hypotheses**

### **6.2.1 Hypothesis 1: the effects of internal control deficiencies**

To test the hypothesis that firms reporting internal control deficiencies (ICDs) had greater compliance costs than those that did not, we collected 468 reports on material weaknesses and significant deficiencies disclosed by accelerated filers during the four compliance years. Our primary data source is the Audit Analytics database. To ensure completeness of our dataset, we also use the Compliance Week database and followed the manual textual searches of SEC forms suggested by Ashbaugh-Skaife et al. (2007a), resulting in 75 additional reports on weak internal controls. A total of 440 sample firms reported a material weakness or significant deficiency in at least one of the four compliance years.<sup>13</sup>

Table 6 shows the univariate results to test whether firms reporting ICDs had greater costs than those that did not. As shown, costs were significantly greater (p-value < 5%) for ICD firms in -1, 0 and 1, but the difference was insignificant in compliance year -2. This pattern of compliance costs is consistent with the idea that firms with ICDs incur greater costs of complying with SOX than firms with no ICDs.

Recalling the SEC's expectations, there is another noteworthy insight here. SOX compliance costs of the majority of our sample firms exceeded \$91,000 per year.

However, our estimates of SOX compliance costs of 346 accelerated filers (23.2% of the

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<sup>13</sup> Focusing on SOX compliance costs, we choose to exclude control deficiencies, the lowest category of weakness in internal controls, which are likely to be repaired at a low cost. We replicated the analysis when (i) control deficiencies are included as an ICD, and (ii) ICD includes material weakness only, excluding significant deficiencies. The results are substantially the same in both cases.

1,493 sample firms) are lower than \$91,000 in each of the four compliance years - see Table 7. Additionally, 9.0% of those firms reported internal control deficiencies, while 35.7% of the firms whose costs exceeded the SEC's expectations reported internal control deficiencies. Apparently, a considerable subset of accelerated filers met the SEC's expectations and those firms had better-quality internal controls.

The analysis calls for another reasonableness check on our measure of SOX compliance costs by comparing  $\Delta^{\text{abn}}\text{NSGA}$  for firms with and without ICDs before SOX and after SOX. Specifically, we perform a retrospective analysis using our constant firm sample to verify whether the mean  $\Delta^{\text{abn}}\text{NSGA}$  differed between firms with and without ICDs in years prior to the SOX legislation. A revealed difference in mean  $\Delta^{\text{abn}}\text{NSGA}$  before the SOX legislation would be inconsistent with our hypothesis that SOX was associated with greater compliance costs for firms with ICDs.

Consequently, we performed a retrospective analysis that compared  $\Delta^{\text{abn}}\text{NSGA}$  costs for our sample firms with and without ICDs in two periods of four fiscal year periods before SOX, as well as on four fiscal (not compliance) years after SOX legislation. Results reported in Table 8 show that mean  $\Delta^{\text{abn}}\text{NSGA}$  is significantly greater for ICD firms in the period after SOX, but there were no significant differences between ICD and non-ICD firms before the SOX legislation. The cost pattern in which ICD firms had higher abnormal NSGA costs than non-ICD firms did not appear in years before SOX legislation. We conclude that abnormal changes in NSGA reflect resources consumed to comply with SOX requirements. Of course, we cannot rule out contemporaneous effects of variables for which we have not controlled.

### **6.2.2 Hypothesis 2: the effects of smaller firms**

Next, we test the hypothesis that smaller firms have higher compliance costs than larger firms. For the univariate analysis, we split the sample at the median market capitalization. For the entire sample of 1,493 accelerated filers, results in Table 9 show that the half of the sample with smaller firms had a significantly higher SCC ( $p < 5\%$ ) than the other half in each of the four compliance years. These results support the smaller firm hypothesis.

### **6.2.3 Regression results**

Table 10 presents results of the multivariate regression analysis of the effects of ICD, size, and control variables on the costs of SOX compliance. We estimate the regression model in each compliance year, as well as for the pooled sample (with year-effects). The coefficient on ICD is positive and significant ( $p$ -values  $< 5\%$  in compliance years -1, 0, and 1 and in the pooled sample), and the coefficient on MV is negative and significant ( $p$ -values  $< 5\%$  in compliance years -1,0, and 1 and in the pooled sample). In compliance year -2, the coefficient on ICD is not significant, and the coefficient on MV is marginally significant ( $p < 10\%$ ). The results support both hypotheses, with the exception of the year in which SOX was enacted, where firms' compliance activities were at early stage.

The control variables coefficient estimates are generally in the predicted direction, with the exception of M&A. Specifically, we find that restructuring activities, foreign currency transactions, segments of operations and research and development activities positively and significantly increased the costs of SOX compliance. The explanation power of the regression models varies from 11.32% to 26.56%, which is reasonable for

this type of analysis. As a whole, both the portfolio analyses and multivariate regression models results support the hypotheses. As predicted, we conclude that firms with internal control deficiencies and smaller firms have greater SOX compliance costs.

## **7. Concluding Remarks**

This paper adds to the literature by examining the actual cost consequences of the Sarbanes-Oxley Act of 2002. SOX might well be the most far reaching securities regulation since the Securities Acts of 1933 and 1934. This study provides evidence from a much larger sample than previously studied. We find SOX compliance costs per sales were, on average, 0.289%, 0.501%, 0.618% and 0.371%, respectively, in the four years after SOX was enacted. For the majority of accelerated filers, we document significant SOX compliance costs that exceed the SEC's compliance cost expectations of \$91,000 per year. However, almost one out of every four accelerated filers met the expectations and those firms had superior internal controls.

We also report considerable variation in SOX compliance costs. SOX compliance costs incurred by financial institutions were higher than for other firms, whereas compliance costs incurred by utilities were negligible. As hypothesized, firms reporting internal control deficiencies had significantly greater compliance costs than those that did not, and smaller firms incurred greater compliance costs than larger firms. Examining the control variables in our regressions indicates that restructuring activities, foreign currency transactions, segments of operations and research and development activities positively and significantly increased the costs of SOX compliance.

Finally, this study contributes in introducing an alternative measure of SOX compliance costs. Unlike previous studies that have relied on self reported compliance costs, we use a measure of abnormal selling, general and administrative expenses, after removing advertising and executive compensation expense, and after controlling for fixed costs, for variable costs related to sales activity, and for inflation. This measure is limited by the fact that it does not directly trace resources invested in compliance with SOX requirements. Nevertheless, this proxy has potential for use in future studies that examine economic aspects of complying with regulation requirements.

## **Appendix: Summary of SOX Compliance Requirements**

### **Part A: Overview of the Sarbanes-Oxley Act of 2002**

### **Part B: Securities and Exchange Commission Releases**

### **Part C: Compliance Due Dates – A Summary**

### **Part D: Public Company Accounting Oversight Board Auditing Standards**

#### **Part A – Overview of the Sarbanes-Oxley Act of 2002**

The Sarbanes-Oxley Act of 2002 (SOX) has 11 major parts known as “titles” that are summarized below.<sup>14</sup>

##### **TITLE I “Public Company Accounting Oversight Board (PCAOB)”**

Title I establishes the Public Company Accounting Oversight Board to provide independent oversight of public accounting firms providing audit services.

##### **TITLE II “Auditor Independence”**

Title II prohibits audit firms from providing many non-audit services for their audit clients, requires the rotation of the lead partner on an audit after five years, expands the content of reports to audit committees, and prohibits audit firms from performing an audit on a client if a senior financial or executive officer of the client had been employed in the audit of that client in the previous year.

##### **TITLE III “Corporate Responsibility”**

Title III requires that audit committees appoint, compensate and provide oversight of audits and requires audit committees to be comprised entirely of independent directors. Section 302 requires the principal financial and executive officers to state that they have reviewed quarterly and annual reports and certify that the reports do not contain untrue statements of material facts or omit to state material facts. The signing officers are responsible for establishing and maintaining internal controls. This title describes specific forfeitures of compensation that were earned as a result of fraudulent financial reporting, and prohibits insider trades during pension fund blackout periods.

##### **TITLE IV -- “Enhanced Financial Disclosures”**

Title IV describes enhanced reporting requirements for financial transactions, including off-balance sheet transactions, pro-forma figures and stock transactions of corporate officers. It restricts personal loans to executives. Section 404 requires management to report its assessment of the adequacy of internal controls and mandates that the firm’s auditors attest to those reports. It also requires codes of ethics for senior officers, disclosure of the audit committees’ financial experts, and

<sup>14</sup> The full text of the law appears at the following web site:  
<http://corporate.findlaw.com/industry/corporate/docs/publ107.204.pdf>

timely reporting of material changes in financial condition. Title IV requires the SEC to review financial statements of issuers at least every three years.

**TITLE V -- “Analyst Conflicts of Interest”**

Title V includes measures designed to help restore investor confidence in the reporting of securities analysts. It defines the codes of conduct for securities analysts and requires disclosure of knowable conflicts of interest.

**TITLE VI -- “Commission Resources and Authority”**

Title VI authorizes additional funds for the SEC. It also defines practices to restore investor confidence in securities analysts, defines the SEC’s authority to censure or bar securities professionals from practice, and defines conditions under which a person can be barred from practicing as a broker, adviser or dealer.

**TITLE VII -- “Studies and Reports”**

Title VII requires studies and reports on the effects of consolidation of public accounting firms, the role of credit rating agencies in the operation of securities markets, securities violations and enforcement actions, and whether investment banks assisted Enron, Global Crossing and others to manipulate earnings and obfuscate true financial conditions.

**TITLE VIII -- “Corporate and Criminal Fraud Accountability”**

Title VIII, known as the “Corporate and Criminal Fraud Act of 2002,” describes specific criminal penalties for fraud by manipulation, destruction or alteration of financial records or other interference with investigations, while providing certain protections for whistle-blowers.

**TITLE IX -- “White Collar Crime Penalty Enhancement”**

Title IX, known as the “White Collar Crime Penalty Enhancement Act of 2002,” increases the criminal penalties associated with white-collar crimes and conspiracies. It recommends stronger sentencing guidelines and specifically adds failure to certify corporate financial reports as a criminal offense.

**TITLE X -- “Corporate Tax Returns”**

Title X states that it is the sense of the Senate that the Chief Executive Officer of a company should sign its Federal income tax return.

**TITLE XI -- “Corporate Fraud Accountability”**

Title XI, known as the “Corporate Fraud Accountability Act of 2002,” identifies corporate fraud and records tampering as criminal offenses and joins those offenses to specific penalties. Title XI enables the SEC to petition a Federal court for a temporary freeze on compensation or other payments. It also revises sentencing guidelines and strengthens their penalties.

**Part B: Securities and Exchange Commission Releases**

1. *July 30, 2002. The Sarbanes-Oxley Act of 2002 was signed into law*
2. *August 29, 2002. Certification of Disclosure in Companies' Quarterly and Annual Reports*
  - a. Release Nos. 33-8124, 34-46427
  - b. Effective date: August 29, 2002
  - c. As required by Section 302(a) of the Sarbanes-Oxley Act of 2002, the SEC adopts rules to require an issuer's principal executive and financial officers each to certify the financial and other information contained in the issuer's quarterly and annual reports. The rules also required these officers to certify that they are responsible for establishing, maintaining and regularly evaluating the effectiveness of the issuer's internal controls; they have made certain disclosures to the issuer's auditors and the audit committee of the board of directors about the issuer's internal controls; and they have included information in the issuer's quarterly and annual reports about their evaluation and whether there have been significant changes in the issuer's internal controls or in other factors that could significantly affect internal controls subsequent to the evaluation.
3. *January 23, 2003. Disclosure Required by Sections 406 and 407 of the Sarbanes-Oxley Act of 2002*
  - a. Release Nos. 33-8177, 34-47235
  - b. Effective date, as amended in Release No. 33-8177A: March 31, 2003
  - c. The SEC adopts rules requiring companies to include two new types of disclosures in their annual reports. First, the rules require a company to disclose whether it has at least one "audit committee financial expert" serving on its audit committee, and if so, whether the expert is independent of management. A company that does not have an audit committee financial expert must disclose this fact and explain why it has no such expert. Second, a company must disclose whether it has adopted a code of ethics that applies to the company's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions.
4. *January 24, 2003. Retention of Records Relevant to Audits and Reviews*
  - a. Release Nos. 33-8180, 34-47241.
  - b. Compliance date: For reviews and audits completed on or after October 31, 2003.
  - c. The SEC adopts rules requiring accounting firms to retain for seven years certain records relevant to their audits and reviews of issuers' financial statements. Records to be retained include an accounting firm's work papers and certain other documents that contain conclusions, opinions, analyses, or financial data related to the audit or review.
5. *January 28, 2003. Disclosure in Management's Discussion and Analysis about Off-Balance Sheet Arrangements*
  - a. Release Nos. 33-8182, 34-47264
  - b. Compliance dates: Fiscal years on or after June 15, 2003

- c. As ed by new Section 13(j) of the Securities Exchange Act of 1934, added by Section 401(a) of the Sarbanes-Oxley Act of 2002, the SEC requires disclosure of off-balance sheet arrangements. The amendments require a registrant to provide an explanation of its off-balance sheet arrangements in a separately captioned subsection of the "Management's Discussion and Analysis" section of a registrant's disclosure documents.
6. *January 28, 2003. Strengthening the Commission's Requirements Regarding Auditor Independence*
  - a. Release Nos. 33-8183, 34-47265, 35-27642
  - b. Effective date: May 6, 2003
  - c. The SEC adopted rules related to non-audit services that, if provided to an audit client, would impair an accounting firm's independence; require that an issuer's audit committee pre-approve all audit and non-audit services provided to the issuer by the auditor of an issuer's financial statements; prohibit certain partners on the audit engagement team from providing audit services to the issuer for more than five or seven consecutive years, depending on the partner's involvement in the audit; prohibit an accounting firm from auditing an issuer's financial statements if certain members of management of that issuer had been members of the accounting firm's audit engagement team within the one-year period preceding the commencement of audit procedures; require that the auditor of an issuer's financial statements report certain matters to the issuer's audit committee, including "critical" accounting policies used by the issuer; and require disclosures to investors of information related to audit and non-audit services provided by, and fees paid to, the auditor of the issuer's financial statements. In addition, an accountant would not be independent from an audit client if an audit partner received compensation based on selling engagements to that client for services other than audit, review and attest services. These rules also have an impact on foreign accounting firms that conduct audits of foreign subsidiaries and affiliates of U.S. issuers, as well as of foreign private issuers.
7. *January 29, 2003. Implementation of Standards of Professional Conduct for Attorneys*
  - a. Release Nos. 33-8185, 34-47276
  - b. Effective date: August 5, 2003
  - c. The SEC established standards of professional conduct for attorneys who appear and practice before the Commission on behalf of issuers. Section 307 of the Sarbanes-Oxley Act of 2002 requires the Commission to prescribe minimum standards of professional conduct for attorneys appearing and practicing before the Commission in any way in the representation of issuers. The standards must include a rule requiring an attorney to report evidence of a material violation of securities laws or breach of fiduciary duty or similar violation by the issuer up-the-ladder within the company to the chief legal counsel or the chief executive officer of the company (or the equivalent thereof).
8. *March 27, 2003. Filing Guidance Related To: Conditions for Use of Non-GAAP Financial Measures; and Insider Trades During Pension Fund Blackout Periods*

- a. Release Nos. 33-8216; 34-47583. Also see Release Nos. 33-8176; 34-47225.
  - b. Effective date: March 28, 2003.
  - c. As required by the Sarbanes-Oxley Act of 2002, the SEC adopted new rules and amendments to address public companies' disclosure or release of certain financial information that is calculated and presented on the basis of methodologies other than in accordance with generally accepted accounting principles (GAAP). Public companies that disclose or release such non-GAAP financial measures must present the most ly comparable GAAP financial measure and a reconciliation of the disclosed non-GAAP financial measure to the most ly comparable GAAP financial measure.
  - d. The SEC adopted rules that clarify the application and prevent evasion of Section 306(a) of the Sarbanes-Oxley Act of 2002. Section 306(a) prohibits any or executive officer of an issuer of any equity security from, ly or inly, purchasing, selling or otherwise acquiring or transferring any equity security of the issuer during a pension plan blackout period.
9. *April 9, 2003. Standards Relating to Listed Company Audit Committees*
    - a. Release Nos. 33-8220; 34-47654.
    - b. Effective date: April 25, 2003.
    - c. The SEC required the national securities exchanges and national securities associations to prohibit the listing of any security of an issuer that is not in compliance with the audit committee requirements mandated by the Sarbanes-Oxley Act of 2002.
  10. *May 20, 2003. Improper Influence on Conduct of Audits*
    - a. Release Nos. 34-47890
    - b. Effective date: June 26, 2003.
    - c. As required by section 303 of the Sarbanes-Oxley Act of 2002, the SEC adopted rules to prohibit officers and directors of an issuer, and persons acting under the direction of an officer or director, from taking any action to coerce, manipulate, mislead, or fraudulently influence the auditor of the issuer's financial statements if that person knew or should have known that such action, if successful, could result in rendering the financial statements materially misleading.
  11. *June 5, 2003. Management's Reports on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports*
    - a. Release Nos. 33-8238, 34-47986
    - b. Compliance dates: Fiscal year ending June 15, 2004 (April 15, 2005) or later for accelerated (non-accelerated) filers.
    - c. As required by Section 404 of the Sarbanes-Oxley Act of 2002, the SEC adopts rules requiring companies subject to the reporting requirements of the Securities Exchange Act of 1934 to include in their annual reports a report of management on the company's internal control over financial reporting. The internal control report must include:
      - A statement of management's responsibility for establishing and maintaining adequate internal control over financial reporting for the

company; management's assessment of the effectiveness of the company's internal control over financial reporting as of the end of the company's most recent fiscal year;

- A statement identifying the framework used by management to evaluate the effectiveness of the company's internal control over financial reporting;
- A statement that the registered public accounting firm that audited the company's financial statements included in the annual report has issued an attestation report on management's assessment of the company's internal control over financial reporting.

Under the new rules, a company was required to file the registered public accounting firm's attestation report as part of the annual report. Furthermore, The SEC added a requirement that management evaluate any change in the company's internal control over financial reporting that occurred during a fiscal quarter that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting.

A company that is an "accelerated filer," as defined in Exchange Act Rule 12b-2, as of the end of its first fiscal year ending on or after June 15, 2004, must begin to comply with the management report on internal control over financial reporting disclosure requirements in its annual report for that fiscal year. The most important distinction between an "accelerated" filer and one that is not accelerated is that the former has an aggregate market value common equity of \$75 million or more as of the last day of the of the filer's most recently completed fiscal second quarter. A company must begin to comply with the requirements regarding evaluation of any material change to its internal control over financial reporting in its first periodic report due after the first annual report required to include a management report on internal control over financial reporting. Companies may voluntarily comply with the new disclosure requirements before the compliance dates. A company must comply with the new exhibit requirements for the certifications required by Sections 302 and 906 of the Sarbanes-Oxley Act of 2002 and changes to the Section 302 certification requirements in its quarterly, semi-annual or annual report due on or after August 14, 2003. To account for the differences between the compliance date of the rules relating to internal control over financial reporting and the effective date of changes to the language of the Section 302 certification, a company's certifying officers may temporarily modify the content of their Section 302 certifications to eliminate certain references to internal control over financial reporting until the compliance date.

12. *February 24, 2004. Management's Report on Internal Control over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports*
  - a. Release Nos. 33-8392, 34-49313.

- b. Compliance dates: Fiscal year ending November 15, 2004 (July 15, 2005) or later for accelerated (non-accelerated and foreign) filers.
  - c. The SEC extends the compliance dates that were published in Release No. 33-8238. The new compliance dates are as follows: A company that is an "accelerated filer" must begin to comply with the management report on internal control over financial reporting requirement and the related registered public accounting firm report requirement for its first fiscal year ending on or after November 15, 2004. A non-accelerated filer must begin to comply with these requirements for its first fiscal year ending on or after July 15, 2005. A foreign private issuer that files its annual report on Form 20-F or Form 40-F must begin to comply with the corresponding requirements in these forms for its first fiscal year ending on or after July 15, 2005.
13. *March 2, 2005. Management's Report on Internal Control Over Financial Reporting and Certification of Disclosure In Exchange Act Periodic Reports of Non-Accelerated Filers and Foreign Private Issuers*
- a. Release Nos. 33-8545; 34-51293
  - b. Compliance dates: For non-accelerated and foreign filers, fiscal years ending July 15, 2006 or later.
  - c. The SEC extends the compliance dates for non-accelerated filers and foreign private issuers that were published in Release No. 33-8392 as follows: A company that is a non-accelerated filer or foreign private issuer must begin to comply with these requirements for its first fiscal year ending on or after July 15, 2006.
14. *September 22, 2005. Management's Report on Internal Control Over Financial Reporting and Certification of Disclosure In Exchange Act Periodic Reports of Companies That Are Not Accelerated Filers*
- a. Release Nos. 33-8618;34-52492
  - b. Compliance dates: For non-accelerated domestic and foreign filers, fiscal years ending July 15, 2007 or later.
  - c. The SEC extends the compliance dates for non-accelerated domestic and foreign filers and foreign private issuers that were published in Release No. 33-8545 as follows: A company that is a non-accelerated domestic or foreign filer must begin to comply with these requirements for its first fiscal year ending on or after July 15, 2007.
15. *August 9, 2006. Internal Control Over Financial Reporting In Exchange Act Periodic Reports of Foreign Private Companies That Are Accelerated Filers*
- a. Release Nos. 33-8730A; 34-54294A
  - b. Compliance dates: For accelerated foreign filers who are not large accelerated filers, the audit report is required for their first fiscal years ending July 15, 2007 or later.
  - c. For accelerated foreign filers who are not large accelerated filers, the SEC extends the compliance dates for the filing of the auditor's attestation report on internal control of over financial reporting in the annual report filed for its first fiscal year ending on or after July 15, 2007. Accelerated filers have public float of at least \$75 million; large accelerated filers have public float of at least \$700 million. The compliance date for the management report on

internal controls has not been extended and is still required for the first fiscal year ending on or after July 15, 2006.

16. *August 9, 2006. Internal Control Over Financial Reporting In Exchange Act Periodic Reports of Non-Accelerated Filers and Newly Public Companies*
  - a. Release Nos. 33-8731
  - b. Compliance dates: For non-accelerated filers, fiscal years ending December 15, 2007 (2008) or later for the management report (audit report).
  - c. The SEC proposed to provide further relief for non-accelerated filers regarding the Section 404 compliance dates. The compliance date is moved to its first fiscal year ending on or after Dec. 15, 2007; the compliance date to provide an auditor's attestation report on internal control would be moved to a fiscal year ending on or after Dec. 15, 2008. The SEC is proposing to provide a transition period for newly public companies before they become subject to compliance with the internal control over financial reporting requirements. Under the proposal, a company would not become subject to these requirements until it previously has been required to file one annual report with the Commission.
17. *December 15, 2006. Internal Control Over Financial Reporting In Exchange Act Periodic Reports of Non-Accelerated Filers and Newly Public Companies*
  - a. Release Nos. 33-8760; 34-54942
  - b. The SEC considers further postponing compliance dates for both the management report on internal controls and the auditor's attestation. In this release, the SEC provides an extensive discussion about the benefits of further compliance date extensions for non-accelerated filers.
18. *December 20, 2006. Management's Report on Internal Control Over Financial Reporting*
  - a. Release Nos. 33-8762; 34-54976
  - b. The SEC provides interpretative guidance for complying with Section 404 of SOX.
19. *June 20, 2007. Amendment's to Rules Regarding Management's Report on Internal Control Over Financial Reporting*
  - a. Release Nos. 33-8809; 34-55928
  - b. The SEC provides additional interpretive guidance for complying with Section 404 of SOX. For one thing, the SEC defined a material weakness in internal controls as a deficiency or a combination of deficiencies in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the registrant's annual or interim financial statements will not be prevented or detected on a timely basis.
20. *February 1, 2008. Internal Control Over Financial Reporting In Exchange Act Periodic Reports of Non-Accelerated Filers*
  - a. Release Nos. 33-8889; 34-57258
  - b. Compliance dates: For non-accelerated filers, fiscal years ending December 15, 2009 or later for the audit attestation.
  - c. The SEC proposed to provide further relief for non-accelerated filers regarding the Section 404(b) compliance dates. The compliance date to provide an auditor's attestation report on internal control over financial

reporting would be extended to the fiscal year ending on or after Dec. 15, 2009.

21. *June 26, 2008. Internal Control Over Financial Reporting In Exchange Act Periodic Reports of Non-Accelerated Filers*
  - a. Release Nos. 33-8934; 34-558028
  - b. According to this release, the revised dates for compliance with Section 404(b) of SOX appear in the chart below.

**Part C: Compliance Due Dates – A Summary (As of August, 2008).**

<b>Filer Status</b>	<b>Management Report Compliance Dates</b>	<b>Auditor Attestation Compliance Dates</b>
U.S. Issuer: Non-accelerated filer (public float under \$75 million)	Annual reports for fiscal years ending on or after December 15, 2007	Annual reports for fiscal years ending on or after December 15, 2009
U.S. Issuer: Accelerated filers (public float of \$75 million or greater)	Annual reports for fiscal years ending on or after November 15, 2004	Annual reports for fiscal years ending on or after November 15, 2004
Foreign Private Issuer: Non-accelerated filer (public float under \$75 million)	Annual reports for fiscal years ending on or after December 15, 2007	Annual reports for fiscal years ending on or after December 15, 2009
Foreign Private Issuer: Accelerated filer with public float of \$75 million or greater but less than \$700 million	Annual reports for fiscal years ending on or after July 15, 2006	Annual reports for fiscal years ending on or after July 15, 2007
Foreign Private Issuer: Large accelerated filer with public float of \$700 million or greater	Annual reports for fiscal years ending on or after July 15, 2006	Annual reports for fiscal years ending on or after July 15, 2006

**Part D: Public Company Accounting Oversight Board (PCAOB) Auditing Standards**

1. *May 14, 2004. Auditing Standards No. 1. References in Auditors' Reports to the Standards of the Public Company Oversight Board*

The PCAOB adopted, as interim standards, the generally accepted auditing standards described in the American Institute of Certified Public Accountants' Auditing Standards Board's Statement on Auditing Standards No. 95.

2. *June 17, 2004. Auditing Standards No. 2. An Audit of Internal Control over Financial Reporting Performed in Conjunction with an Audit of Financial Statements*

This standard established requirements and provided ions for audits of internal control over financial reporting as required by Section 404(b) of SOX. This standard was superseded by Auditing Standard No. 5.

3. *August 25, 2004. Auditing Standards No. 3. Audit Documentation*

This standard establishes requirements for documentation that auditors should prepare and retain.

4. *February 6, 2006. Auditing Standards No. 4. Reporting on Whether a Previously Reported Material Weakness Continues to Exist*

This standard established requirements and provided ions that apply when an auditor is engaged to report on whether a previously reported material weakness in internal control over financial reporting continues to exist.

5. *July 27, 2007. Auditing Standards No. 5. An Audit of Internal Control over Financial Reporting that is Integrated with an Audit of Financial Statements*

This standard established requirements and provided ions for audits of management's assessment of the effectiveness of internal control over financial reporting that is integrated with an audit of the financial statements that is required by Section 404(b) of SOX. This standard supersedes Auditing Standard No. 2 and requires amendments to Auditing Standards Nos. 3 and 4.

## References

- Altamuro, J., Beatty, A., 2007. Do internal control reforms improve earnings quality? Working paper, Ohio State University.
- Anderson, M., Banker, R., Janakiraman, S., 2003. Are selling, general and administrative costs sticky? *Journal of Accounting Research* 41, 47-63.
- Anderson, S.W., Lanen, W.N., 2007. Understanding cost management: what can we learn from the evidence on 'sticky costs'? Available at SSRN: <http://ssrn.com/abstract=975135>.
- A.R.C. Morgan, 2005. Sarbanes-Oxley implementation costs (February 24). [http://www.auditnet.org/articles/Sarbanes-Oxley\\_Implementation\\_Costs.pdf](http://www.auditnet.org/articles/Sarbanes-Oxley_Implementation_Costs.pdf).
- Ashbaugh-Skaife, H., Collins, D. W., Kinney, Jr., W.R., 2007a. The discovery and reporting of internal control deficiencies prior to SOX-mandated audits. *Journal of Accounting and Economics* 44, 166-192.
- Ashbaugh-Skaife, H., Collins, D.W., Kinney, Jr., W. R., LaFond, R., 2007b. The effect of SOX internal control deficiencies on firm risk and cost of equity. Working Paper, University of Iowa.
- Babu, A.J.G., Suresh, N., 1996. Project management with time, cost, and quality considerations. *European Journal of Operational Research* 88, 320-327.
- Beneish, M.D., Billings, M.B., Hodder, L.D., 2008. Internal control weaknesses and information uncertainty. *The Accounting Review* 83(3), 665-703.
- Benston, G., 1973. Required disclosure and the stock market: an evaluation of the Securities Exchange Act of 1934. *The American Economic Review* 63, 132-55.
- Bushee, B., J., Leuz, C., 2005. Economic consequences of SEC disclosure regulation. *Journal of Accounting Research* 39, 233-264.
- Carter, M.E., Lynch, L.J., Zechman, S.L. Changes in bonus contracts in the post Sarbanes-Oxley era. *Review of Accounting Studies* forthcoming.
- Cohen, D.A., Dey, A., Lys, T. Z., 2007. The Sarbanes Oxley Act of 2002: implication for compensation contracts and managerial risk-taking. Available at SSRN: <http://ssrn.com/abstract=1027448>.
- CRA International, 2006. Sarbanes-Oxley Section 404 costs and implementation issues: Spring 2006 survey update. Washington, D.C.: CRA International.

- DeFond, M., Hung, M. Y., Karaoglu, E., Zhang, J., 2008. Was the Sarbanes-Oxley Act good news for corporate bondholders? Available at SSRN: <http://ssrn.com/abstract=964865>.
- Doyle, J., Ge, W., McVay, S., 2007. Determinants of weaknesses in internal control over financial reporting. *Journal of Accounting and Economics* 44 (1-2), 193-223.
- Eldridge S.W., Kealey, B.T, 2005. SOX costs: Auditor attestation under section 404. Working Paper, University of Nebraska.
- Engel, E., Hayes, R.M., Wang, X., 2007. The Sarbanes-Oxley Act and firms' going-private decisions. *Journal of Accounting and Economics* 44, 116-145.
- Financial Executives International, 2007. FEI survey on Sarbanes-Oxley Section 404 implementation. Florham Park, NJ: Financial Executives International and Financial Executives Research Foundation, Florham Park, NJ.
- Gao, F., Wu, J.S., Zimmerman, J., 2007. Unintended consequences of scaling securities regulation: evidence from the Sarbanes-Oxley Act. Working Paper, University of Rochester.
- Greenstone, M., Oyer, P., Vissing-Jorgensen, A., 2006. Mandated disclosure, stock returns and the 1964 Securities Acts amendments. *Quarterly Journal of Economics* 121 (2), 399-460.
- Griffin, P.A., Lont, D., 2007. An analysis of audit fees following the passage of Sarbanes-Oxley. *Asia-Pacific Journal of Accounting and Economics* 14 (2), 161-192.
- Griffin, P.A., Lont, D., Sun, Y., 2008. Corporate governance and audit fees: Evidence of countervailing relations. *Journal of Contemporary Accounting and Economics* 4(1), 18-49.
- Grundfest, J.A., Fixing 404, *Michigan Law Review*, forthcoming.
- Grundfest, J.A., Bochner, S.E., 2007. Fixing 404. *Michigan Law Review* 105 (8), 1643-1676.
- Hansen, B., Pownall, G., Wang, X., 2008. The robustness of the Sarbanes Oxley effect on the U.S. capital market. Working paper, Emory University.
- Harrington, C., 2004. Internal audit's new role: put together a top-notch department. *Journal of Accountancy* 198 (3), 65-70.
- Hoitash, R., Hoitash, U., Bedard, J.C., 2008. Internal control quality and audit pricing under the Sarbanes-Oxley Act. *Auditing: A Journal of Practice and Theory* 27 (1), 105-126.

- Hammersley, J.S., Myers, L.A., Shakespeare, C., 2008. Market reactions to the disclosure of internal control weaknesses and to the characteristics of those weaknesses under Section 302 of the Sarbanes Oxley Act of 2002. *Review of Accounting Studies* 13(1), 141-165.
- Hitt, M.A., Hoskisson, R.E., Johnson, R.A., Moesel, D.D., 1996. The market for corporate control and firm innovation. *The Academy of Management Journal* 39(5), 1084-1119.
- Jain, P.K., Rezaee, Z., 2006. The Sarbanes-Oxley Act of 2002 and capital-market behavior: early evidence. *Contemporary Accounting Research* 23 (3), 629-654.
- Jonas, G., May 2006. The second year of Section 404 reporting on internal control. Moody's Investors Service, New York.
- Konchitchki, Y., 2007. Inflation and nominal financial reporting: Implications for performance and stock prices. Working paper Stanford University
- Krishnan, J., Rama, D., Zhang, Y., 2008. Costs to comply with SOX Section 404. *Auditing: A Journal of Theory and Practice* 27 (1), 169-186.
- Leuz, C., 2007. Was the Sarbanes-Oxley Act of 2002 really this costly? A discussion of evidence from event returns and going-private decisions. *Journal of Accounting and Economics* 44 (1-2), 146-165.
- Leuz, C., Triantis, A.J., Wang, T.Y., 2008. Why do firms go dark? Causes and economic consequences of voluntary SEC deregistrations. Available at SSRN: <http://ssrn.com/abstract=592421>.
- Li, H., Pincus, M., Rego, S.O., 2008. Market reaction to events surrounding the Sarbanes-Oxley Act of 2002 and earnings management. *Journal of Law and Economics*, forthcoming.
- Litvak, K. 2007a. The effect of the Sarbanes-Oxley Act on non-US companies cross-listed in the U.S. *Journal of Corporate Finance* 13 (2-3), 195-228.
- Litvak, K. 2007b. Sarbanes-Oxley and the cross-listing premium. *Michigan Law Review* 105 (8), 1857-1898.
- Maher, M.W., 1981. The impact of regulation on controls: firms' response to the foreign corrupt practices act. *The Accounting Review* 56 (4), 751-770.
- Ogneva, M., Subramanyam, K.R., Raghunandan, K., 2008. Internal control weakness and cost of equity: Evidence from SOX section 404 disclosures. *The Accounting Review* 82(5) 1255-1297.

Raghunandan, K., Rama, D.V., 2006. SOX Section 404 material weakness disclosures and audit fees. *Auditing: A Journal of Practice & Theory* 25 (1), 99-114.

Schwert, G.W., 1981. Using financial data to measure effects of regulation. *Journal of Law and Economics* 24(1), 121-158.

Stigler, G.J., 1964. Public regulation of the securities markets. *Journal of Business* 37(2), 117-142.

United States Government Accountability Office, 2006. Sarbanes-Oxley Act: Consideration of key principles needed in addressing implementation for smaller public companies. Washington, D.C.: United States General Accountability Office (April 13).

United States Securities and Exchange Commission, 2003. Management's Reports on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, U.S. Securities and Exchange Commission (June 18).

United States Securities and Exchange Commission, 2006. Advisory Committee on Smaller Public Companies, "Final Report of the Advisory Committee on Smaller Public Companies to the U.S. Securities and Exchange Commission," U.S. Securities and Exchange Commission (April 23).

Vera-Munoz, S.C., 1998. The effects of accounting knowledge and context on the omission of opportunity costs in resource allocation decisions. *The Accounting Review* 73(1), 47-72.

Zhang, I.X., 2007. Economic consequences of the Sarbanes-Oxley Act of 2002. *Journal of Accounting and Economics* 44 (1-2), 74-115.

**Table 1 – Major SOX Compliance Dates**

See the Appendix to this paper for more information about the Securities and Exchange Commission (SEC) Releases.

July 30, 2002.	SOX was signed into law.
August 29, 2002.	The SEC adopted rules requiring certification of financial statements in compliance with Section 302.
January 23–29, 2003.	The SEC adopted rules as required by SOX that dealt with disclosure of the audit committee’s financial expert and code of ethics for senior company officials, retention of auditor records, disclosure by management of off-balance sheet arrangements, strengthening auditor independence and implementation of professional standards for attorneys.
March 27 – May 20, 2003.	The SEC adopted rules as required by SOX to set conditions for use of non-GAAP financial measures, to restrict insider trades during pension fund blackout periods, to prohibit national securities exchanges and associations from listing firms that do not comply with SOX’s audit committee requirements, and to prohibit management from improperly influencing auditors.
June 5, 2003.	The SEC adopted rules to require firms to comply with the management reporting and attestation requirements of Section 404 for fiscal years ending on June 15, 2004, or later, for accelerated filers and April 15, 2005 or later for non-accelerated filers. <sup>a</sup>
February 24, 2004.	The SEC issued the first of several extensions of the deadline for compliance with Section 404 to fiscal year ending November 15, 2004, or later, for domestic accelerated filers, and to fiscal year ending July 15, 2005, or later, for all domestic non-accelerated filers and all foreign accelerated filers. (The deadline for domestic accelerated filers was not extended after this.)
March 2, 2005 – June 28, 2008.	The SEC made several extensions of the deadline for complying with Section 404 of SOX for foreign filers and for domestic non-accelerated filers, as shown in items 13, 14, 16, 20 and 21 in the Appendix. The final compliance dates appear in item 21.

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<sup>a</sup> The primary criterion for cutoff between accelerated and non-accelerated filers is that the latter have a public float less than \$75 million.

**Table 2 – Sample Selection**

	<i>#Firms dropped</i>	<i># Firms</i>
<b>A constant firm sample with values for SCC in four compliance years; that is, fiscal years ending from November 15, 2002 until November 14, 2006.</b>		
Accelerated filing firms with positive figures for sales (#12) and SG&A (#189) in Compustat in the four compliance years.		2,282
Less: firms with unavailable sales (#12) or SG&A (#189) data in prior two years – see equation 4 in section 5.2.	563	1,719
Less: firms with $\Delta^{\text{abn}}\text{NSGA}$ values below -0.1 or above 0.1 in at least one of the four compliance years.	226	1,493

**Table 3 - Regression coefficients from estimating the following models, 1992-2005:**

$$\text{NSGA}_{it} = \alpha + \beta_1 \text{SALE}_{it} + \beta_2 \text{DUM}_t + \varepsilon_{it} \quad (5)$$

$$\overline{\text{NSGA}}_t = \alpha + \beta_1 \overline{\text{SALE}}_t + \beta_2 \text{DUM}_t + \varepsilon_t \quad (5a)$$

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	<b>Model (5)</b>	<b>Model (5a)</b>
$\alpha$	129.293 (<0.001)	114.544 (<0.001)
$\beta_1$	0.113 (<0.001)	0.121 (<0.001)
$\beta_2$	2.079 (0.048)	3.123 (0.043)
Adj R <sup>2</sup>	0.618	0.922
N	10,756	14

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p-values are reported in parentheses.

**Variable definition**

$\text{NSGA}_{it}$  is net sales, general, and administrative costs defined in equation (1) for firm  $i$  in fiscal year  $t$ ,  $\overline{\text{NSGA}}_t$  average NSGA per firm in fiscal year  $t$ ,  $\text{SALE}_{it}$  is sales of firm  $i$  in fiscal year  $t$ ,  $\overline{\text{SALE}}_t$  is average sales per firm on fiscal year  $t$ , and  $\text{DUM}_t$  is a dummy variable that takes a value of 1 on three compliance years after SOX was enacted from 2002 till 2004, and 0 on other years. The sample includes accelerated filers (see Table 2) with December fiscal year-end and is subject to data availability on years prior 2000.

**Table 4 – Summary Statistics -  $\Delta^{\text{abn}}\text{NSGA}$  for 1,493 Accelerated Filers**

This table presents summary statistics for  $\Delta^{\text{abn}}\text{NSGA}$ , which estimates abnormal changes in net sales, general and administrative expenses as a percentage of sales. See equation (3). Note that  $\Delta^{\text{abn}}\text{NSGA}$  is an incremental compliance cost measure because the cost of the year  $t-1$  compliance is already included in the base cost for year  $t$ . For example, the percentage cost shown in column (3) for compliance year -1 (i.e., 0.212%) is incremental to the compliance cost shown for year -2 (i.e., 0.289%).

Column (1) shows the compliance year. Section 404 was required to be implemented for accelerated filers starting with fiscal years ending between November 15, 2004 and November 14, 2005, so we set that fiscal year as “compliance year 0”. Column (2) indicates the fiscal year end dates included in each compliance year. For example, the financial statements of a firm whose fiscal year ends on June 30 have first to comply with Section 404 on June 30, 2005. Column (3) reports the mean  $\Delta^{\text{abn}}\text{NSGA}$  as a percentage of sales for each compliance year. Column (4) reports the median  $\Delta^{\text{abn}}\text{NSGA}$  as a percentage of sales for each compliance year and column (5) reports the standard deviation (SD) of  $\Delta^{\text{abn}}\text{NSGA}$  as a percentage of sales on each compliance year.

<i>Compliance year</i>	<i>Fiscal year ends between</i>	<i>Mean %</i>	<i>Median %</i>	<i>SD</i>
(1)	(2)	(3)	(4)	(5)
-2	Nov. 15, 2002 and Nov. 14, 2003	0.289**	0.191	0.030
-1	Nov. 15, 2003 and Nov. 14, 2004	0.212**	0.203	0.028
0 - First compliance year	Nov. 15, 2004 and Nov. 14, 2005	0.116**	0.133	0.025
+1	Nov. 15, 2005 and Nov. 14, 2006	-0.247**	-0.089	0.026

\*,\*\* indicate significance at 10%,5% level or better.

**Table 5 – Annual SOX Compliance Costs (SCC) for 1,493 Accelerated Filers****Panel A – Summary Statistics**

The table presents summary statistics for annual SOX compliance costs, SCC, which is the cumulative abnormal change in net sales, general and administrative expenses as a percentage of sales. See equation (4). Note that SCC is our estimate of the annual costs of compliance in contrast to Table 3 which shows the incremental cost each year.

Column (1) shows the compliance year. Column (2) indicates the fiscal year end dates included in each compliance year. For example, the financial statements of a firm whose fiscal year ends on June 30 have to first comply with Section 404 on June 30, 2005. Column (3) reports the mean SCC as a percentage of sales for each compliance year, column (4) reports the median SCC as a percentage of sales for each compliance year, column (5) reports the standard deviation (SD) of SCC as a percentage of sales on each compliance year.

<i>Compliance year</i>	<i>Fiscal year ends between</i>	<i>Mean %</i>	<i>Median %</i>	<i>SD</i>
(1)	(2)	(3)	(4)	(5)
-2	Nov. 15, 2002 and Nov. 14, 2003	0.289**	0.191	0.030
-1	Nov. 15, 2003 and Nov. 14, 2004	0.501**	0.303	0.043
0 - First compliance year	Nov. 15, 2004 and Nov. 14, 2005	0.618**	0.350	0.035
+1	Nov. 15, 2005 and Nov. 14, 2006	0.371**	0.188	0.036

\*,\*\* indicate significance at 10%,5% level or better.

**Table 5 - Continued****Panel B – Industry Analysis**

The table presents mean annual SOX compliance costs, SCC, for each compliance year and each firm category. SCC is cumulative abnormal changes in net sales, general and administrative expenses as a percentage of sales. See equation (4).

<i>Category</i>	<i>SIC Codes</i>	<i>Compliance Years</i>				<i>N<sup>a</sup></i>
		<i>-2</i>	<i>-1</i>	<i>0</i>	<i>+1</i>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Manufacturing	0xxx, 1xxx, 2xxx, 3xxx.	0.014	0.170*	0.272**	0.245**	745
Utilities	4xxx	-0.125	0.038	0.054	0.085	73
Financial Institutions	60xx-64xx	1.735**	2.000**	2.274**	1.001**	243
Services	5xxx, 65xx to 69xx, 7xxx, 8xxx, 9xxx.	0.020	0.310**	0.380**	0.280**	432

\*,\*\* indicate significance at 10%,5% level or better.

<sup>a</sup> N is the number of accelerated fillers in each category.

**Table 6 – Hypothesis 1: Internal Control Deficiency Effect**

This table shows the difference in mean and median annual costs of sox compliance, SCC, between accelerated fillers with and without reports of internal control deficiencies (ICDs). Columns (1) and (2) are the same as in Tables 3 and 4. Columns (3) through (8) show the compliance costs as a percent of sales (SCC).

<i>Compliance year</i>	<i>Fiscal year ends between</i>	<i>SCC: Mean %</i>			<i>SCC: Median %</i>		
		<i>No ICD (3)</i>	<i>With ICD (4)</i>	<i>Difference (5)=(3)-(4)</i>	<i>No ICD (6)</i>	<i>With ICD (7)</i>	<i>Difference (8)=(6)-(7)</i>
(1)	(2)						
-2	Nov. 15, 2002 and Nov. 14, 2003	0.287**	0.532	-0.245	0.190	0.551	-0.361
-1	Nov. 15, 2003 and Nov. 14, 2004	0.482**	1.048**	-0.567**	0.282	1.019	-0.737
0 - First compliance year	Nov. 15, 2004 and Nov. 14, 2005	0.350**	1.969**	-1.619**	0.294	0.830	-0.536
+1	Nov. 15, 2005 and Nov. 14, 2006	0.173*	1.442**	-1.270**	0.075	0.455	-0.380

\*,\*\* indicate significance at 10%,5% level or better.

**Table 7 – Meeting SEC’s expectations**

The table presents the number of ICDs reported by two firm categories:

- (i) Meet SEC’s expectations - firms with estimated compliance costs below \$91,000 on each of the four compliance years,
- (ii) Miss SEC’s expectations - firms with estimated compliance costs that exceed \$91,000 in at least one of the four compliance years.

<i>Firm category</i>	<i>N</i>	<i>Firms reporting ICDs<sup>a</sup></i>	<i>%</i>
(1)	(2)	(3)	(4) = (3)/(2)
<b>Meet SEC’s Expectations</b>	346 (23.2%)	31 (7.0%)	9.0%
<b>Miss SEC’s Expectations</b>	1,147 (76.8%)	409 (93.0%)	35.7%
<b>Total</b>	1,493 (100.0%)	440 (100.0%)	

a – Number of firms that report an ICD on at least one of the four compliance years.

**Table 8 - Retrospective Analysis Comparing Firms with and without ICDs**

The table presents a retrospective comparative analysis of  $\Delta^{\text{abn}}\text{NSGA}$  for the sample of 1,493 accelerated filers (see Table 3). The mean value of  $\Delta\text{NSGA}$  is compared between firms with and without reports on deficiencies in internal controls on three periods of four fiscal years: 1994-1997, 1998-2001, 2002-2005 (subject to data availability for our sample firms in the two earlier four-year periods).

r

<i>Four-year terms</i>	<i>Fiscal year</i>	<i>Mean <math>\Delta^{\text{abn}}\text{NSGA}</math> %</i>		
		<i>No ICD (3)</i>	<i>With ICD<sup>a</sup> (4)</i>	<i>Difference (5)=(3)-(4)</i>
<i>Before SOX legislation</i>	1994-1997	0.021	-0.008	0.029
<i>Before SOX legislation</i>	1998-2001	0.009	0.015	-0.006
<i>After SOX legislation</i>	2002-2005	0.078**	0.128**	-0.050**

\*,\*\* indicate significance at 10%,5% level or better.

a – we split the sample firms into 440 firms that report an ICD on at least one of the four SOX compliance years and 1,053 firms that do not report an ICD.

**Table 9 – Hypothesis 2: Size Effect**

This table shows the difference in mean and median annual costs of sox compliance, SCC, between small and large accelerated filers. Column headings are the same as in Table 5.

<i>Compliance year</i>	<i>Fiscal year ends between</i>	<i>Mean %</i>			<i>Median %</i>		
		<i>Small<sup>a</sup></i>	<i>Large</i>	<i>Difference</i>	<i>Small<sup>a</sup></i>	<i>Large</i>	<i>Difference</i>
(1)	(2)	(3)	(4)	(5)=(3)-(4)	(6)	(7)	(8)=(6)-(7)
-2	Nov. 15, 2002 and Nov. 14, 2003	0.555**	0.024	0.531**	0.391	0.093	0.298
-1	Nov. 15, 2003 and Nov. 14, 2004	0.962**	0.042	0.920**	0.511	0.152	0.359
0 - First compliance year	Nov. 15, 2004 and Nov. 14, 2005	1.077**	0.160**	0.917**	0.416	0.181	0.235
+1	Nov. 15, 2005 and Nov. 14, 2006	0.684**	0.058	0.626**	0.193	0.068	0.125

\*,\*\* indicate significance at 10%,5% level or better.

a – We use the sample median market capitalization of equity to split between small and large firm-year observations.

**Table 10 - Regression analyses of annual costs of SOX compliance as a function of a deficiency in internal controls, firm size and control variables.**

$$SCC_{it} = \alpha + \beta_{MANUF} + \beta_{FINAN} + \beta_{SERV} + \beta_1 ICD_{it} + \beta_2 MV_{it} + \beta_3 REST_{it} + \beta_4 M\&A_{it} + \beta_5 FT_{it} + \beta_6 SEG_{it} + \beta_7 RD_{it} + \varepsilon_{it}. \quad (6)$$

Variables	Predicted sign	Compliance Years				Pooled Sample <sup>a</sup>
		-2	-1	0	+1	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	?	0.010 (0.306)	0.019 (0.204)	0.022 (0.071)	0.006 (0.012)	0.028 (<0.001)
Manufacturing Dummy	?	0.000 (0.695)	0.001 (0.918)	-0.006 (0.389)	-0.013 (0.099)	-0.005 (0.117)
Financial Ins. Dummy	?	0.026 (<0.001)	0.036 (<0.001)	0.035 (<0.001)	0.011 (0.033)	0.029 (<0.001)
Service Dummy	?	-0.004 (0.899)	0.002 (0.627)	-0.007 (0.363)	-0.008 (0.316)	-0.003 (0.311)
ICD <sup>b</sup>	+	0.002 (0.695)	0.009 (0.049)	0.019 (<0.001)	0.012 (0.011)	0.015 (<0.001)
MV <sup>b</sup>	-	-0.002 (0.073)	-0.002 (0.047)	-0.002 (0.033)	-0.003 (0.014)	-0.002 (0.043)
REST	+	0.006 (0.055)	0.003 (0.041)	0.004 (0.044)	0.006 (0.041)	0.003 (0.048)
M&A	+	-0.001 (0.390)	-0.002 (0.974)	-0.000 (0.354)	-0.001 (0.591)	-0.001 (0.569)
FT	+	0.002 (0.077)	0.004 (0.038)	0.001 (0.066)	0.002 (0.067)	0.002 (0.045)
SEG	+	0.002 (0.018)	0.001 (0.038)	0.002 (0.057)	0.004 (0.083)	0.002 (0.044)
RD	+	0.024 (0.052)	0.036 (0.048)	0.052 (0.036)	0.124 (<0.001)	0.058 (<0.001)
Adj R <sup>2</sup>		11.32%	15.61%	26.56%	19.18%	22.18%

p-values are reported in parentheses.

a – Regression estimates of the pooled sample include compliance year- effects.

b—Experimental variable.

Variable definitions:  $SCC_{it}$  is SOX compliance costs defined in equation (4),  $ICD_{it}$  is a dummy variable that equals 1 if firm  $i$  reports a deficiency in internal controls in year  $t$  and 0 otherwise,  $MV_{it}$  is the natural log of market value of equity (Compustat #199 x #25) on fiscal year-end,  $REST_{it}$  is a dummy variable that equals 1 if firm  $i$  bears restructuring charges in year  $t$  (Compustat AFTNT 1) and 0 otherwise,  $M\&A_{it}$  is a dummy variable that equals 1 if firm  $i$  is involved in a merger or acquisition in year  $t$  (Compustat AFTNT 1) and 0 otherwise,  $FT_{it}$  is a dummy variable that equals 1 if firm  $i$  has a non-zero foreign currency translation in year  $t$  (Compustat # 150) and 0 otherwise,  $SEG_{it}$  is the log of the sum of operating and geographic segments reported by Compustat Segments database firm  $i$  on year  $t$ ,  $RD_{it}$  is R&D expenditures (including zero) divided by sales (Compustat #45 and #12, respectively).