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WHAT IS THE EVIDENCE?

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Sarbanes-Oxley’s Effects on Small Firms: What Is the Evidence?

By Ehud Kamar,^a Pinar Karaca-Mandic,^b and Eric Talley^c

Abstract

This article presents an overview of the regulatory regime created by the Sarbanes-Oxley Act of 2002 (SOX) and its implications for small firms. We review the available evidence in three distinct domains: compliance costs, stock price reactions, and firms’ decisions to exit regulated securities markets.

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Introduction and Background

The Sarbanes-Oxley Act (SOX) was enacted in July 2002 to strengthen corporate governance and restore investor confidence after a series of financial debacles involving some of the most prominent firms in the United States, including Enron, Tyco, and WorldCom. SOX and the rules implementing it have transformed the reporting obligations of public firms. Most importantly, SOX requires management and an outside auditor to assess annually the effectiveness of the firm's internal controls over financial reporting. In addition, SOX tightens disclosure rules, requires management to certify the firm's periodic reports, strengthens board independence and financial literacy requirements, and raises auditor independence standards.

While the intent behind SOX is clear, its ultimate effects on capital markets and economic growth are still under debate. Proponents of the Act argue that it alleviates investor concerns by improving transparency and the accuracy of financial reports (e.g., Cunningham (2003), Wagner and Dittmar (2006), Coates (2007)). Opponents of the Act argue that it unduly increases the regulatory burden associated with being a publicly-traded firm (e.g., Coustan et al. (2004), Ribstein (2002), Gordon (2003), Romano (2005)).

For policy makers, the crux of the debate must concern SOX's *net* effects. There is no dispute that complying with SOX is costly, even though compliance costs have been going down of late. The more germane question is whether the cost is justified by attendant benefits (either public or private). While this question applies to all firms, it is especially salient for smaller issuers. Many of the provisions of SOX increase accounting, audit, and other general compliance costs. Because small firms have fewer resources, enjoy lesser scale economies and receive relatively little investor attention, they likely face higher average costs and derive lower average benefits from SOX. On the other hand, small firms (or at least their public investors)

may also benefit more than others from the assurance that SOX provides; Enron, Tyco, and WorldCom aside, small companies have historically been more prone to financial fraud than large firms. Whether SOX strikes the right balance between costs and benefits can only be resolved empirically.

In this article, we review empirical studies of the effect of SOX on large and small firms. Because the extant studies employ different measures to define small firms, we will clarify the definition used in each study. Our review focuses on areas in which (a) SOX might plausibly have an impact, and (b) the impact of SOX is susceptible to empirical measurement: accounting and audit costs, stock prices, and exit from the market for public capital.

The evidence we review lends some support to the proposition that SOX had a disproportionately negative impact on smaller firms, at least at its initial implementation. However, the evidence is not conclusive, especially with regard to the effects of SOX over the long term. More research in this area is needed.

Our analysis proceeds as follows. Part I briefly reviews the principal reforms introduced by the Act. Part II explains why small firms might plausibly be affected by the act in a manner distinct from larger firms. Parts III through V summarize evidence on, respectively, the accounting and audit costs associated with SOX, stock price reactions to SOX, and changes in deregistration patterns after the enactment of SOX. Part VI chronicles initiatives to mitigate the effect of SOX on small firms.

I. Overview of SOX

In order to situate and motivate our later discussion, we begin by reviewing the principal provisions of SOX. At the onset, it bears noting that as a phenomenon, SOX was not a single action by Congress. Rather, the rollout of the provisions that are now identified collectively as

SOX was piecemeal. The multidimensionality of its constituent reforms presents a challenge for empirical study of the effects of SOX *writ large*. While each component of the SOX might affect firms differently, researchers can often only examine the effects of the provisions as a whole, making fine-tuning of the regulatory environment difficult.

A. Internal Controls

The most notorious mandate introduced by SOX is a requirement to include in the firm's annual report assessments by the chief executive officer (CEO), chief financial officer (CFO), and an outside auditor of the effectiveness of the firm's internal controls over the accuracy of financial statements. Though a relative latecomer in the cavalcade of SOX reforms, this requirement is largely regarded as the most costly requirement in SOX. As Klingsberg and Noble (2004) note:

Any audit committee member or general counsel will readily tell you that the most burdensome part of the Sarbanes-Oxley Act of 2002 has turned out not to be certifications by the CEO and CFO as to the accuracy of the financial statements, the movement toward real time disclosure as most recently exemplified by new Form 8-K, or even the non-GAAP reconciliation requirement of Regulation G. Memoranda from law firms and accounting firms following the adoption of Sarbanes-Oxley and the initial SEC releases pursuant to the statute usually included only vague references to what some corporate insiders and auditors now claim has turned out to be the neutron bomb within Sarbanes-Oxley: Section 404 — Management Assessment of Internal Controls. Nowadays, Section 404 is the focus and in many circles is literally synonymous with Sarbanes-Oxley.

Section 404 has been implemented slowly, and indeed it is still not fully implemented. Although the Securities and Exchange Commission (SEC) received rulemaking authority in July

2002, it did not issue rules on Section 404 until June 2003.¹ These rules require so-called “accelerated filers” (firms with a minimum float of \$75 million and at least one year’s worth of financial reporting) to include management and auditor reports on internal controls in annual reports for fiscal years ending after June 14, 2004. Other firms were required to comply for fiscal years ending after April 14, 2005. In June 2004, the SEC approved the audit standard proposed by the newly created Public Company Accounting Oversight Board (PCAOB) in connection with Section 404.²

However, the SEC has staggered, and subsequently postponed, the start dates for compliance. In June 2004, for example, the SEC extended the compliance date to November 15, 2004 for accelerated filers and to July 15, 2005 for other firms.³ In March 2005, the SEC extended the compliance date to July 15, 2006 for non-accelerated filers and foreign firms.⁴ In September 2005, the SEC pushed back the compliance date for non-accelerated filers to July 15,

¹ See Securities and Exchange Commission Release No. 33-8238: Management’s Report on Internal Control over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports (Jun. 5, 2003), 68 FR 36636 (Jun. 18, 2003).

² See Securities and Exchange Commission Release No. 34-49884: Public Company Accounting Oversight Board; Order Approving Proposed Auditing Standard No. 2, An Audit of Internal Control Over Financial Reporting Performed in Conjunction with an Audit of Financial Statements (Jun. 17, 2004), 69 FR 35083 (Jun. 23, 2004).

³ See Securities and Exchange Commission Release No. 33-8392: Management’s Report on Internal Control over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports (Feb. 24, 2004), 69 FR 9722 (Mar. 1, 2004). In November 2004, the SEC extended the deadline for filing the report by 45 days for accelerated filers with stock capitalization of less than \$700 million. See Release No. 34-50754: Order Under Section 36 of the Securities Exchange Act of 1934 Granting an Exemption from Specified Provisions of Exchange Act Rules 13a-1 and 15d-1 (Nov. 30, 2004), <http://www.sec.gov/rules/exorders/34-50754.htm>.

⁴ See Securities and Exchange Commission Releases Nos. 33-8545, 34-51293: 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 (Mar. 2, 2005), 70 FR 11528 (Mar. 8, 2005).

2007.⁵ In December 2006, the compliance date was further extended to December 15, 2007 for management certification and December 15, 2008 for auditor attestation.⁶

B. Management Certification of Financial Statements

Not all of the SOX reforms took as long to implement as the internal controls requirement. For example, under Section 906 of the act (effective July 2002), chief executive officers and chief financial officers are required to certify the accuracy of the firm's periodic reports, and are subject to criminal penalties for false certifications. In August 2002, the SEC issued a rule implementing Section 302.⁷

C. Extended Statute of Limitations for Shareholder Lawsuits

Another immediate effect of SOX was the extension of the statute of limitations for filing shareholder lawsuits. Before the enactment of SOX, shareholder plaintiffs had been required to file claims within the earlier of three years of the occurrence of the fraud or one year of its discovery. Section 804 of the Act increased these time limits to five years and two years, respectively.

⁵ See Securities and Exchange Commission Releases No. 33-8618, 34-52492: 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 (Sept. 22, 2005), 70 FR 56825 (Sept. 29, 2005).

⁶ See Securities and Exchange Commission Releases Nos. 33-8760; 34-54942, Internal Control Over Financial Reporting in Exchange Act Periodic Reports of Non-Accelerated Filers and Newly Public Companies, (Dec. 15, 2006), 71 FR 76580 (Dec. 21, 2006).

⁷ See Securities and Exchange Commission Release No. 33-8124: Certification of Disclosure in Companies' Quarterly and Annual Reports (Aug. 28, 2002), 67 FR 57276 (Sept. 9, 2002). On June 27, 2002, the SEC ordered the CEOs and CFOs of 947 public firms with revenues exceeding \$1.2 million in the last fiscal year to file by the filing date of the first period report on or after August 14, 2002 sworn statements certifying the accuracy of period reports, immediate reports, and definitive proxy materials in the preceding year. See Securities and Exchange Commission File No. 4-460: Order Requiring the Filing of Sworn Statements Pursuant to Section 21(a)(1) of the Securities Exchange Act of 1934 (Jun. 27, 2002), <http://www.sec.gov/rules/other/4-460.htm>.

Initially, there was uncertainty as to whether the filing deadlines were extended even for acts of fraud that preceded the enactment of SOX. The text of Section 804 stated that the limitations extensions “shall apply to all proceedings addressed by this section that are commenced on or after the date of enactment of this Act.” Nevertheless, trial courts initially differed on whether claims for which the pre-SOX statute of limitations had elapsed could be revived.⁸ Only in 2004 was the issue resolved by the Second Circuit Court of Appeals, which ruled that Section 804 did not revive expired claims.⁹ This ruling was confirmed by the Courts of Appeals for the Fourth and Seventh Circuits.¹⁰

D. Executive Compensation

SOX made immediate changes to executive compensation on several fronts. Most importantly, Section 402 bans most loans by firms to directors or officers. Such loans, often made on attractive terms, were viewed as hidden compensation. In addition to the ban on loans, SOX changed executive compensation practices in two ways. First, Section 306 (effective January 2003) prevents directors and officers from trading in firm securities during pension plan blackout periods¹¹ unless the trade is part of a preset trading plan.¹² Second, Section 403

⁸ Compare *Roberts v. Dean Witter Reynolds, Inc.*, No. 8:02-cv-2115-T-26EAJ, 2003 WL 1936116 (M.D. Fla. Mar. 31, 2003) (holding that Section 804 revives expired claims), with *De La Fuente v. DCI Telecommunications, Inc.*, 206 F.R.D. 369 (S.D.N.Y. Mar. 4, 2003) (holding that Section 804 does not cover claims that were pending at the time of its enactment).

⁹ See *In re Enterprise Mortgage Acceptance Co., LLC*, Sec. Litig., 391 F.3d 401 (2d Cir. 2004).

¹⁰ The appellate courts of two other federal circuits have since followed the decision. See *Glaser v. Enzo Biochem, Inc.*, Fed. Sec. L. Rep. (CCH) P93134 (4th Cir. 2005); *Foss v. Bear, Stearns & Co.*, 394 F.3d 540 (7th Cir. 2005).

¹¹ A pension plan blackout period is a period when an employee owning the company's stock as part of their pension plan cannot trade in their stock.

¹² In January 2003, the SEC issued a final rule implementing Section 306. See Securities and Exchange Commission Release No. 34-47225: Insider Trades During Pension Fund Blackout Periods (Jan. 23, 2003), 68 FR 4338 (Jan. 28, 2003).

(effective August 2002) requires directors, officers and 10% shareholders to report their trades in firm securities within two business days following the trade. Prior law allowed these reports to be delayed for 10 business days after the month of the trade, and in some cases 45 days after the end of the fiscal year of the trade.¹³ Section 403 (effective July 2003) further provides that this report must be filed electronically with the SEC and posted on the firm's website.¹⁴

E. Audit Committees

Section 301 of SOX requires that all firms listed on national stock exchanges have audit committees composed exclusively of independent directors. Although audit committees had been required long before the enactment of SOX, the composition and duties of these committees had been mostly unregulated. In 1999, the national stock exchanges began requiring that audit committees be independent and state in their charters that the auditor is accountable to the board of directors and that the audit committee is authorized to select, evaluate, and replace the auditor. These changes, however, allowed boards to name one non-independent director to the audit committee and exempted small businesses from the new requirements.

SOX broadly defines an independent director as a director who does not receive any fee from the firm other than for being a director and who is not an affiliated person of the firm or any of its subsidiaries. In April 2003, the SEC issued a rule defining an affiliated person as a person

¹³ In August 2002, the SEC issued a final rule implementing this requirement. *See* Securities and Exchange Commission Release No. 34-46421: Ownership Reports and Trading by Officers, Directors and Principal Security Holders (Aug. 27, 2002), 67 FR 56462 (Sept. 3, 2002).

¹⁴ In May 2003, the SEC issued a final rule implementing this requirement. *See* Securities and Exchange Commission Release No. 33-8230: Mandated Electronic Filing and Website Posting for Forms 3, 4 and 5 (May 7, 2003), 68 FR 25788 (May 13, 2003).

who controls the firm, is controlled by it, or is under common control with it.¹⁵ Section 301 also requires firms to provide their audit committees with independent legal counsel and other advisors necessary for fulfilling their duties, and requires audit committees to establish procedures to receive and investigate complaints regarding accounting and auditing matters.

In addition, Section 407 of the Act requires firms to disclose whether any members of their audit committee are financial experts, and, if not, to explain why. In January 2003, the SEC issued a rule implementing Section 407.¹⁶ The rule required small business issuers (firms with less than \$25 million in revenues and no more than \$25 million in publicly traded stock) to include the report under Section 407 in annual reports for fiscal years ending after December 30, 2003, and required other issuers to include this report in annual reports for fiscal years ending after July 30, 2003.

F. Separation of Audit and Non-Audit Services

SOX also prohibits auditing firms from providing certain non-audit services to the firms they audit. Section 201 of the Act (effective July 2002) prohibits a firm's auditing firm from providing a number of other services, including financial information system design and implementation, appraisal or valuation, internal auditing, investment banking, legal and expert services unrelated to the audit, brokerage, and actuarial services. In January 2003, the SEC

¹⁵ See Securities and Exchange Commission Release No. 33-8220, Standards Relating to Listed Company Audit Committees (Apr. 9, 2003), 68 FR 18788 (Apr. 16, 2003). The rule contains a safe harbor under which a person who is not an executive officer or a shareholder owning 10% or more of any class of voting stock of a company will be deemed not to control the company.

¹⁶ See Securities and Exchange Commission Release No. 33-8177: Disclosure Required by Sections 406 and 407 of the Sarbanes-Oxley Act of 2002 (Jan. 23, 2003), 68 FR 5110 (Jan. 31, 2003).

issued a rule under Section 208 of the Act defining the circumstances in which auditors are not deemed independent.¹⁷

II. The Special Case of Small Firms

Before we review the evidence, it is useful to examine why one might plausibly expect that SOX's impact on small firms may be different from its impact on their larger counterparts. The reason, in a nutshell, is that both the costs of complying with SOX and the potential benefits of SOX can be larger for small firms.¹⁸

Small firms may incur relatively higher SOX-related compliance costs for a number of reasons. First, they may experience a disproportionately large increase in audit fees because some of the costs associated with establishing, maintaining, and evaluating internal controls over financial reporting are fixed and because small firms often lack the staff to perform in-house the additional accounting work (Wolkoff (2005), Carney (2006), SEC (2006)). Consistently, Doyle, Ge, and McVay (2007) find that small firms are more likely to have ineffective internal controls than large firms.

Small firms have also raised concerns about the complexity of the new audit standard. Many firms voiced displeasure with the lack of advance guidance how to comply with the internal controls requirement. While the SEC issued final rules on this requirement in June 2003, it was not until March 2004 that the PCAOB issued the corresponding audit standard, and until May 2007 that the SEC released interpretive guidelines. Complex standards can pose a

¹⁷ See Securities and Exchange Commission Release No. 33-8183: Strengthening the Commission's Requirements Regarding Auditor Independence (Jan. 28, 2003), 68 FR 6005 (Feb. 5, 2003).

¹⁸ Prior research suggests that small firms derived a lower net benefit from being public than large firms even before SOX (Pagano and Röell (1998), Pagano, Panetta, and Zingales (1998)).

problem for all firms, but small firms are affected more because they tend to lack in-house staff to respond to the new environment.

Third, the increased demand for accounting services following the enactment of SOX raised audit costs for small firms in particular. Survey results indicate that, after the enactment of SOX, large accounting firms stopped working with small clients, citing lack of profitability, risk, and capacity constraints, forcing these clients to seek other accountants (GAO (2006)). The resulting imbalance in the market for accounting services could not be resolved quickly because entry into this regulated market is slow.

While the main concern expressed by small businesses about SOX revolves around accounting costs, other issues have been raised as well. One concern is that some of the new rules make it difficult for firms to attract individuals to serve as directors because they increase liability exposure and tighten independence standards. This concern might be greater in the case of small businesses because serving on their boards is less prestigious. Consistently, Linck, Netter, and Yang (2007) find that, after the enactment of SOX, director fees as a percentage of net sales increased significantly more for small firms than for large ones. Another concern is that preoccupation with compliance discourages taking business risks. This can be especially problematic for small firms at the start of their growth.

It is important to note that the potential benefits of SOX can also be higher for small firms. The goal of SOX was to restore investor confidence by increasing transparency. Achieving this goal can be especially beneficial to small firms because their limited accounting personnel and limited exposure to public scrutiny make their financial statements prone to inaccuracies (Doyle, Ge, and McVay (2007)).

Of course, this argument rests on the assumption that, without regulation, investors would have less information about small firms than about large firms. It is also possible that the contrary is true, namely that the regulation benefits large firms more because their operations tend to be more complex, and therefore more difficult for investors to process and distill. Ultimately, whether on balance SOX imposes a net loss on firms and, if so, whether the loss is larger for small firms, is an empirical question. We turn to this question next.

III. Evidence on Accounting and Audit Costs

Several studies document an increase in public firms' accounting and audit costs since the enactment of SOX. However, they differ about the relative impact on small firms. Asthana, Balsam and Kim (2004) find that the average ratio of audit fees to assets increased between 2000 and 2002, and that bigger and riskier firms, and clients of the "Big Four" audit firms experienced a larger increase in absolute audit fees. They attribute the latter finding to decreased competition in the market for audits of multinational firms. In an analysis of the financial statements of 97 Fortune 1,000 firms, Eldridge and Kealey (2005) find a \$2.3 million average increase in audit fees from 2003 to 2004 associated with SOX costs. They find that SOX audit costs increase in assets, asset growth, effectiveness of internal controls, and 2003 audit fees.

Financial Executives International (FEI) surveyed public firms in January 2004, July 2004, March 2005, March 2006, and May 2007 about the cost of compliance with Section 404 of SOX. Firms reported substantial and increasing costs (FEI (2005, 2006, 2007)). The 321 firms that responded in January 2004 predicted average compliance costs of \$1.93 million, including \$590,100 in auditor attestation fees. The 224 firms that responded in July 2004 predicted average compliance costs of \$3.14 million, including \$823,200 in auditor attestation fees. The 217 firms surveyed in March 2005 reported average compliance costs of \$4.36 million, including

\$1.3 million in auditor attestation fees. While these figures show an increase in costs from January 2004 to March 2005, the study does not report how much of the difference in the results is due to the different group of firms responding to each survey. The surveys conducted in 2006 and 2007 report a 35% decline in total compliance costs since year one.

Several studies compare SOX costs of small and large firms. They report that Section 404 implementation costs comprise a larger percentage of revenues for small firms, and that this percentage declined between the first year and the second years after the enactment of SOX for both small and large firms.

CRA International surveyed firms subject to SOX in March 2005, December 2005, and March 2006 (CRA (2005, 2006)). The initial survey included data on Fortune 1,000 firms with market capitalization over \$700 million. The second and third surveys also included firms with market capitalization between \$75 million and \$700 million. According to the December 2005 survey, in the first year after the enactment of SOX, Section 404 costs averaged \$1.5 million for small firms (with market capitalization between \$75 million and \$700 million), and \$7.3 million for large firms (with market capitalization greater than \$700 million). Audit fees accounted for 35% and 26% of total Section 404 costs for small and large firms, respectively. According to the March 2006 survey, in the second year after the enactment of SOX these costs declined by 30.7% for small firms, and 43.9% for large firms. During that year, audit fees accounted for 39% and 33% of total Section 404 implementation costs for small and large firms, respectively. Between March 2005 and March 2006, audit fees declined by 20.6% for small firms and 22.3% for large firms. For small firms, total Section 404 costs represented 0.24% of the average revenue in the second year after the enactment of SOX, compared to 0.38% in the previous year.

The corresponding figures for larger firms were 0.05% and 0.11% of average revenue, respectively.

The surveyed auditors attributed the decline in total Section 404 costs to efficiencies gained from a year's experience in implementing and assessing internal controls and from the fact that documentation that had been performed in the first year did not need to be replicated. There was, however, an increase in non-404 audit fees after the first year, which auditors attributed to new non-404 audit standards, higher salaries due to increased demand for accounting personnel, and additional compliance requirements.

Hartman (2005, 2006) also reports that the average audit fees increased by a larger percentage for smaller firms. The studies analyze about 700 firms included in the Standard and Poor's (S&P) 500, the S&P MidCap 400, and the S&P SmallCap 600 indexes. They find that in 2004 average audit fees increased by 84% for SmallCap firms (from \$1,042,000 in 2003) and 92% for MidCap firms (from \$2,177,000 in 2003). Average audit fees of larger firms, included in the S&P 500 index, increased by a more modest 55% (from \$7,443,000 in 2003). In 2005, average audit fees increased by 22% for SmallCap firms, 6% for MidCap firms, and 4% for S&P 500 firms. In total, between 2003 and 2005, average audit fees increased by 141% for SmallCap firms, 104% for MidCap firms, and 62% for S&P 500 firms.

The U.S. Government Accountability Office (GAO) similarly reports that small firms have experienced a greater increase in audit-related costs than have large firms since the enactment of SOX (GAO (2006)). The study finds that audit fees constituted a higher percentage of revenues for small public firms before the enactment of SOX, and that this disparity increased after the enactment of SOX, especially for small firms that filed internal control reports. Table 1 summarizes the study's findings.

Table 1. Median Audit Fees as a Percentage of Revenues

Market Capitalization (in \$ million)	Median Audit Fees As a % of 2003 Revenues	Median Audit Fees as a % of 2004 Revenues	
		Firms Not Filing Internal Control Reports	Firms Filing Internal Control Reports
\$0-\$75	0.64	0.79	1.14
\$75-\$250	0.29	0.35	0.56
\$250-\$500	0.18	0.26	0.40
\$500-\$700	0.15	0.20	0.30
\$700-\$1,000	0.13	0.12	0.25
> \$1,000	0.07	0.07	0.13

Source: GAO (2006)

As Table 1 illustrates, for firms with less than \$75 million in market capitalization that filed internal control reports, the median audit fee increased from 0.64% of revenues in 2003 to 1.14% in 2004. For firms with more than \$1 billion in market capitalization that filed internal control reports, the median audit fee increased from 0.07% to 0.13% of revenues during the same period.

The GAO (2006) surveyed firms with less than \$700 million in market capitalization and less than \$100 million in revenues that filed internal control reports in 2004. 158 firms out of 591 that were contacted completed the survey. They reported having paid consulting fees ranging from \$3,000 to more than \$1.4 million for assistance in meeting the new requirements. Most firms reported that they needed to make significant changes to their internal controls and many reported expenses for hiring additional staff. Firms also reported that their CEOs and CFOs spent as much as 90% of their time on compliance, forcing them to defer investments.

Other provisions of SOX might also have increased costs of the smaller firms. For example, 69% of the surveyed firms reported that the tightened auditor independence standards

forced them to pay additional fees for tax advice. In addition, about half of the firms retained outside counsel to draft charters for board committees and a code of ethics, and to handle CEO and CFO certifications.

In sum, the studies described above provide evidence that SOX increased public firms' accounting and audit costs regardless of the company size; that before the passage of SOX, audit costs were already disproportionately higher for small firms; that the disparity increased after the enactment of SOX, especially for small firms that were subject to Section 404; and that the costs declined for all firms between the first year and the second year after the enactment of SOX.

A key attraction of the accounting studies is that they provide concrete, company-specific information that is at least somewhat reflective of firms' actual compliance costs. At the same time, the accounting studies are self-limiting for a few reasons. First, they present a challenge of discerning whether the increased costs are due solely to the new regulatory terrain or also reflect preexisting costs that had been previously expended elsewhere.¹⁹ Second, and perhaps more significantly, the accounting studies do not provide insights about the benefits of SOX. Accordingly, another area where researchers have attempted forays is in the use of stock market fluctuations as a reflection of whether SOX has created or destroyed economic value. It is to these studies that we now turn.

¹⁹ For example, even before SOX public companies were required to maintain internal financial controls under the Foreign Corrupt Practices Act, but those controls did not have to be audited. After SOX, some of the costs of designing internal control systems and protocols may have been (rationally) offloaded to auditors, a shift that would visibly increase audit fees, but the reduction in internal costs might not be easily detected within the company's books and records.

IV. Evidence on Market Reactions and Firm Value

The evidence on abnormal stock returns around events leading to the enactment and implementation of SOX is, in a word, mixed.²⁰

Several studies do not distinguish between firms according to size. Jain and Rezaee (2006) examine events between June 25, 2002 (when SOX was introduced in Senate) and July 30, 2002 (when the President signed SOX) find positive returns. However, they find a positive relation between these returns and practices SOX sought to promote: effective corporate governance, reliable financial reporting, and credible audit functions. This suggests that the firms least affected by SOX experienced higher returns. Li, Pincus, and Rego (2008) cover a similar period. They find positive returns and a positive relation between returns and the extent of earnings management, a practice SOX sought to discourage. This suggests that the firms most affected by SOX experienced higher returns.

Other studies examine the relation between firm size and returns. Engel, Hayes, and Wang (2007) study events between February 13, 2002 (when the SEC announced its intent to improve financial disclosure regulation) and July 30, 2002 (as in Jain and Rezaee (2006)). They find that returns were negative and positively related to firm market value and stock turnover, indicating that smaller and less actively traded firms were particularly harmed by SOX.

Wintoki (2007) studies events between January 17, 2002 (when the SEC chairman proposed to overhaul corporate accounting) and August 1, 2002 (when the New York Stock Exchange approved new board independence rules). He finds that returns were positively related to firm size and age, and negatively related to market-to-book ratio and to expenditure on research and development.

²⁰ Abnormal stock returns are the returns to a firm in excess of the returns to a market portfolio.

Zhang (2007) studies events leading to the enactment of SOX between January 17, 2002 (as in Wintoki (2007)) and July 25, 2002 (when SOX was enacted). She finds negative returns. She also finds that firms experienced lower returns if they purchased non-audit services from their auditors, had complex operations, or had weak shareholder rights, suggesting that firms more affected by SOX lost more value. She does not find a relation between returns and firm market capitalization.

Chhaochharia and Grinstein (2007) study events between November 2001 (one month before Enron filed for bankruptcy) and October 2002 (three months after the enactment of SOX and the proposal of amendments to stock exchange listing rules). They define small firms as those included in the S&P MidCap 400 and the S&P SmallCap 600 indexes (averaging \$21 million in market capitalization), and large firms as those included in the S&P 1,500 index (averaging \$1,876 million in market capitalization). They find that small firms with less independent boards and weaker internal controls (which they assume to be affected by SOX) underperformed small firms with more independent boards and stronger internal controls (which they assume to have been unaffected). Affected large firms performed similarly to unaffected large firms, and in some regressions performed better.

Litvak (2007a) compares the returns to foreign firms cross-listed in the United States with the returns to other foreign firms matched by market capitalization and industry. Her study period begins in January 17, 2002 (as in Wintoki (2007) and Zhang (2007)) and October 22, 2002 (when the SEC adopted a rule requiring firms to introduce internal control procedures). She finds lower returns to cross-listed firms regardless of firm size.²¹

²¹ The effect of SOX on cross-listed firms may be unique. In particular, legal change is likely to present particularly thorny obstacles to cross-listed firms because they must comply with two regulatory regimes simultaneously. Cross-listed firms also tend to be large and belong to particular industries. Litvak (2007b) finds that

Overall, while the event studies provide mixed evidence regarding the effect of SOX on large firms, they appear to be consistent in finding a negative effect on small firms. As noted above, an advantage of these event studies over accounting studies is that they capture the *net* value that the market attaches to an anticipated regulatory change. A limitation of these studies is that they are best suited to studying sharp regime shifts, and less well suited to studying a process of piecemeal regulation. With SOX, the change took shape over time, as the law was implemented. Before then it was difficult to predict how various reforms would play out. Investors expected change, but did not know what form it would take. Deregistration studies, described next, examine how the market viewed SOX a few months later, when some of the uncertainty around the new law had been resolved.

V. Evidence on Deregistrations

We now review the evidence concerning the relationship between SOX and firm decisions to exit the market for public capital. Section 12(g)(4) of the Securities and Exchange Act of 1934 provides that public firms can deregister their stock with the SEC and suspend being subject to federal securities law once the number of their shareholders drops below 300. Firms can deregister by arranging for private acquirers to buy their entire stock (“going private”) or by cashing out small shareholders to reduce the number of shareholders below 300 (“going dark”).

Unlike going dark, going private can achieve a number of business goals other than avoiding securities law. For example, Jensen (1989) argues that going private lowers agency costs by concentrating ownership and increasing leverage. Kaplan (1989a), Baker and Wruck

small firms reacted more negatively to SOX when she uses the same sample as Litvak (2007a) but measures the effect using the post-SOX change in the ratio of the market value of the firm’s debt and equity to the replacement cost of its assets.

(1990), Lichtenberg and Siegel (1990), and Smith (1990) find improvements in profitability and operating efficiency in firms after going private, while Ofek (1994) finds no similar improvements after failed attempts to go private. Moreover, as Kaplan (1989b) illustrates, going private can yield tax savings.

Studies of the two types of transactions suggest that going-dark transactions are more clearly related to avoiding the cost of being public, especially after the enactment of SOX, than going-private transactions.

Block (2004) surveys 110 of the 236 firms that either went private or went dark between January 2001 and July 2003, and finds a link between deregistration and an interest in reducing costs, especially after the enactment of SOX. Among firms responding to the survey, the most common reason given for deregistering, especially among firms with low market capitalization, was the cost of being public. This reason was cited more frequently after the enactment of SOX, and firms reported a post-SOX increase in the average cost of being public from \$900,000 to \$1,954,000.

Engel, Hayes, and Wang (2007) find a modest post-SOX increase in deregistrations in a sample of 470 firms that went private or went dark from the first quarter of 1998 through early May 2005, excluding foreign firms and firms in bankruptcy or liquidation. The increase becomes insignificant when going-dark transactions are excluded. The study also finds that smaller firms experienced higher returns at the announcement of a plan to deregister their stock in the post-SOX period compared to the pre-SOX period, especially if they had a high percentage of inside ownership. This finding is robust to excluding going-dark transactions.

Leuz, Triantis, and Wang (2006) compare a group of 436 firms that went private and 484 firms that went dark between January 1998 and December 2004 to firms that remained

registered. They find that going-dark firms are smaller than going-private firms, have lower past returns, are more distressed, and have poorer accounting quality. In addition, they find an increase in the number of going-dark transactions per month after the enactment of SOX and through May 2003, followed by a decrease, but find no change in the number of going-private transactions per month. They also find that distress predicts going dark before the enactment of SOX, while agency costs predict going dark after its enactment.

The GAO (2006) analyzes deregistrations by U.S. firms between 1998 and 2005. The study excludes firms that deregistered as a result of liquidation, reorganization, or bankruptcy. It finds that the number of deregistrations increased from 143 in 2001 to 245 in 2004. It also reports the reasons that firms cited for deregistering. Table 2 provides a summary.

Table 2. Primary Reasons Cited for Deregistration, by Percent²²

Year	Direct Costs of Being Public	Indirect Costs of Being Public	Market/Liquidity Issues	Benefits of Being Private
2001	32.2	13.3	31.5	23.8
2002	44.4	13.9	35.4	22.9
2003	57.8	27.5	38.5	21.3
2004	52.7	25.7	28.6	15.9

Source: GAO (2006)

Table 2 shows an increase in the percentage of firms deregistering due to costs between 2001 and 2004. The percentage of firms citing direct costs as the primary reason for deregistering increased from 32.2% in 2001 to 53% in 2004, while the percentage of firms citing indirect costs as the primary reason increased from 13.3% to 25.7%. Across all years, market and liquidity issues were an important factor in deregistration decisions and were cited more

²² Firms may cite more than one primary reason for deregistering.

often than indirect costs of being public. Firms also cited advantages of being private, such as reduced pressure to generate quick profits and the ability to avoid disclosing information that may benefit competitors.

The multitude of factors affecting the decision to deregister makes it difficult to isolate the effect of SOX on deregistration. For example, financial market liquidity around the enactment of SOX could have increased the willingness of private investors to pursue acquisitions independent of SOX.²³ Similarly, the weakness of the public capital market at that time could have independently encouraged firms to exit this market. Maupin, Bidwell, and Ortegren (1984), for example, report that financial officers commonly cite undervaluation by the market as a reason for going private.²⁴ Lerner (1994) and Pagano, Panetta, and Zingales (1998) find that the likelihood of an initial public offering decreases when stock prices are low. Benninga, Helmantel, and Sarig (2005) develop a model in which going public is positively related, and going private is negatively related, to stock prices.

There is reason to believe that the weakness of the public capital market around the enactment of SOX increased the pressure on firms to go private. According to Block (2004), almost 40% of firms that deregistered after the enactment of SOX cited the absence of liquidity in the public capital market and the absence of opportunity for a secondary market as one of the primary costs of being public.²⁵ Indeed, *The Economist* (2003a, 2003b) notes that dwindling

²³ Holstein (2004), MacFayden (2002, 2003, 2004), and Carney (2005), for example, report that the ready availability of private equity financing around the enactment of SOX fueled going-private transactions.

²⁴ Whether the belief held by financial officers of firms that go private that the market undervalues their firms is founded is a separate matter. Lee (1992) finds no evidence to support it.

²⁵ The Appendix provides examples of rationales given by firms to their decision to go private or to go dark after the enactment of SOX.

profits and low stock prices induced going-private transactions around the enactment of SOX not only in the United States.

Kamar, Karaca-Mandic, and Talley (2007) separate the effects of SOX from the effect of other contemporaneous factors using foreign firms as a control group. Defining “small” firms as firms in the sample’s bottom quartile of market value (less than \$15 million), they find that, in the first year after the enactment of SOX, the probability that small public firms undergoing acquisitions will be bought by private acquirers (rather than by other public firms) increased for American firms by 53% (from 43% to 66%) attributable to SOX. The study finds no effect among large firms or in the second year after the enactment of SOX, and interprets the latter finding as indication that maladapted firms went private immediately to avoid initial compliance with the new requirements, leaving behind public firms that were better suited to the new regulatory environment.

While the comparison to foreign firms screens out the effects of market changes, it does not separate the effect of SOX from the effect of other forms of scrutiny that tightened in the United States around the same time. SOX was not the only response to the corporate scandals of the late 1990s. Courts, regulators, stock exchanges, and investors intensified their scrutiny of public firms in additional ways.²⁶ Each of these non-SOX changes could have raised the cost of

²⁶ For example, a numerous scholars have documented how the scandals that precipitated SOX caused judges in corporate cases to be more sympathetic to allegations of mismanagement than ever before (Strine (2002); Marcus (2003); Loomis (2003); Subramanian (2003)). Moreover, roughly simultaneously with the passage of SOX, Congress dramatically increased the budget of the SEC (Rogers (2002)). The SEC, in turn, intensified its market monitoring activity, leading Loomis (2003) to report “record numbers of high-profile enforcement actions” in 2003 by the SEC and the United States Department of Justice. The year 2003 also saw a proposal by the SEC to allow shareholders to nominate directors in firm proxy statements. The national stock exchanges similarly toughened their corporate governance standards in 2003, requiring listed firms, among other things, to have a majority of independent directors. *See* Release No. 34-48745, Self-Regulatory Organizations; New York Stock Exchange, Inc. and National Association of Securities Dealers, Inc.; Order Approving Proposed Rule Changes (Nov. 4, 2003), 68 FR 64154 (Nov. 12, 2003); Release No. 34-48863, Self-Regulatory Organizations; Order Granting Approval of Proposed Rule Change by the American Stock Exchange LLC (Dec. 1, 2003), 68 FR 68432 (Dec. 8, 2003). The changes were made at the SEC’s prodding. *See* Securities and Exchange Commission Press Release No. 2002-23,

being public. Therefore, the study compares the combined effect of SOX and these related changes to contemporaneous trends abroad. Moreover, the study focuses on public firms that were acquired. It does not measure the effect that SOX may have had on public firms that were not acquired, or its effect on private firms' decisions to go public.

VI. Proposals to Mitigate the Effect of SOX on Small Firms

Since the enactment of SOX, the SEC has taken several actions to address the concerns of small firms. First, it extended the Section 404 compliance deadline time after time for non-accelerated filers. The most recent extension is still in force. Second, in March 2005, it formed an advisory committee to assess the implications of SOX for small firms. In April 2006, the committee presented its final report, in which it recommended scaling down the requirements under Section 404 for firms whose stock market capitalization is between \$128 million and \$787 million ("Smallcap firms"), and further scaling down these requirements for firms whose stock market capitalization is less than \$128 million ("Microcap firms").²⁷ Alternatively, the report recommended exempting from Section 404 Smallcap firms with less than \$250 million in annual revenues but more than \$10 million in annual product revenue, and Microcap firms with between \$125 and \$250 million in annual revenue.

The SEC rejected the idea of creating special carve-outs for small firms. Instead, in May 2006, it announced that it would prepare interpretive guidelines on how to comply with Section

Pitt Seeks Review of Corporate Governance, Conduct Codes (Feb. 13, 2002), <http://www.sec.gov/news/press/2002-23.txt>. In 2004, the Internal Revenue Service announced its intent to routinely audit executive compensation in public firms based on findings from auditing large public firms since the beginning of 2003. Lublin (2004) (describing the decision); McKinnon (2005) (describing implementation). Also in 2004, the United States Sentencing Commission tightened the sentencing guidelines concerning corporate programs for legal compliance. *See* United States Sentencing Commission, Guidelines Manual, Appendix C (Nov. 2004).

²⁷ Microcap firms comprise 1% of stock market capitalization in the United States, and smallcap firms comprise another 5%. Together, however, they account for 78.5% of U.S. public firms.

404, work with the PCAOB to improve its audit standard, and ensure that PCAOB inspections of auditors focus on efficiency. The SEC also announced that it would postpone the Section 404 requirements for non-accelerated filers until the guidelines and the audit standard are released. In December 2006, the SEC set the compliance deadline as the end of 2007 for management certification of internal controls and the end of 2008 for auditor attestation. In May 2007, the SEC adopted interpretive guidelines to Section 404 premised on scaling internal controls to firm size, materiality to financial results, and risk of misstatement, and the PCAOB adopted a companion audit standard to replace the standard from 2004.

Conclusion

In this article, we reviewed the evidence on the effects of SOX on small firms and large firms in three areas: accounting and audit costs; stock prices; and deregistration decisions. Table 3 offers a concise summary of the literature as it now stands.

Table 3: Summary of the Studies Reviewed

Study	Time Period Studied	Small Firm Definition	Primary Outcome(s)	Finding
Asthana, Balsam, and Kim (2004)	2000-2004	No distinction	Audit fees	Average ratio of audit fees to assets increased between 2000 and 2002.
Financial Executives International (2005, 2006, 2007)	Surveys in Jan. 2004, Jul. 2004, Mar. 2005, Mar. 2006, May 2007	No distinction	Section 404 costs	Section 404 increased from Jan. 2004 to Mar. 2005.
Eldridge and Kealey (2005)	2003-2004	Only Fortune 100 firms included	Audit fees	Audit fees increased from 2003 to 2004.
CRA (2005, 2006)	First and second years after SOX (Jul. 2002)	Only firms with market capitalization between \$75 million and \$700 million	Section 404 costs	Section 404 costs were higher for small firms in the first year after SOX. Costs declined for all firms in the second year.

Study	Time Period Studied	Small Firm Definition	Primary Outcome(s)	Finding
Hartman (2005)	FY 2003 and FY 2004	S&P SmallCap 600 firms	Audit Fees	Audit fees increased disproportionately for small firms between FY 2003 and FY 2004.
Hartman (2006)	FY 2005	S&P SmallCap 600 firms	Audit Fees	Percent increase in audit fees was higher for small firms in FY 2005.
GAO (2006)	1. 2003 and 2004 for audit fees. 2. 1998-2005 for deregistrations.	1. Less than \$75 million in market capitalization. 2. Less than \$700 million in market capitalization and less than \$100 million in revenues.	Audit fees, deregistrations	1. In 2003 and 2004, audit fees represented a larger share of revenues for small firms. 2. The increase in deregistrations between 2001-2004 was due to costs. No evidence of distinction by firm size.
Jain and Rezaee (2006)	Feb. 14, 2002-Jul. 30, 2002	No distinction	Abnormal stock returns	SOX is associated with positive returns. Returns are higher for less affected firms.
Li, Pincus, and Rego (2008)	Feb. 13, 2002-Jul. 25, 2002	No distinction	Abnormal stock returns	SOX is associated with positive returns.
Engel, Hayes, and Wang (2007)	1. Feb. 13, 2002-July 30, 2002 for abnormal stock returns. 2. 1998-2005 for deregistrations.	Market value is a control.	Abnormal stock returns, deregistrations	1. SOX is associated with negative returns. Returns are lower for small and less liquid firms. 2. There was a modest increase in going-dark transactions, especially for small firms.
Zhang (2007)	Jan. 17, 2002-Jul. 25, 2002	Market value is a control	Abnormal stock returns	SOX is associated with negative returns regardless of firm size.
Wintoki (2007)	Jan. 17, 2002-Aug. 1, 2002	Market value is a control.	Abnormal stock returns	Returns associated with SOX are lower for small, growth firms.
Chhaochharia and Grinstein (2007)	Nov. 2001-Oct. 2002	S&P SmallCap 600 firms	Abnormal stock returns	SOX reduced the value of small firms. It had no effect, or positive effect, on the value of large firms.
Litvak (2007a)	Jan. 17, 2002-Oct. 22, 2002	Market value is a control.	Abnormal stock returns	SOX reduced the value of cross-listed firms regardless of firm size.
Litvak (2007b)	Year-end 2001-Year-end 2002	Market value is a control.	Cross-listing premium	SOX reduced the value of cross-listed firms, especially if they were small.
Block (2004)	Jan. 2001-Jul. 2003	Market value	Deregistrations	Small firms are more likely to cite the cost of being public as reason for deregistering. This reason is cited more often after SOX.
Leuz, Triantis, and Wang (2006)	Jan. 1998-Dec. 2004	Market value is a control.	Going dark and going private	The rate of going-dark transactions increased during 10 months after SOX, especially for small firms. Agency costs predict going dark after SOX.
Kamar, Karaca-Mandic, and Talley (2007)	Jan. 2000-Dec. 2004	Bottom quartile of market value (less than \$15 million)	Going private	The rate of going-private transactions increased for small firms in the first year after SOX. There was no effect on large firms or in the second year after SOX.

Three factors make comparison of the studies difficult. First, the studies define small firms differently. Second, the studies examine different periods and — except for CRA (2005, 2006), Leuz, Triantis, and Wang (2006), and Kamar, Karaca-Mandic, and Talley (2007) — do not distinguish between short-term effects and long-term effects. Third, the studies differ in design and in the degree to which they control for factors other than SOX that may have affected their results.

There is ample evidence that SOX increased public firms' accounting and audit costs. Before the passage of SOX, audit fees had already constituted a higher portion of revenues for smaller firms. This disparity between small firms and large firms increased after the enactment of SOX, especially for small firms that complied with Section 404. Comparing audit fees, however, is only the first step towards evaluating the effect of SOX on small firms. The question is whether the higher costs that small firms bear are matched by higher benefits.

Event studies analyzing SOX's impact on firm value represent one attempt to answer this question. These studies provide mixed results, which seem to depend on the choice of events and control variables. Nevertheless, almost all studies that distinguish between firms based on size find that SOX affected small firms more adversely than large firms and that its effect on small firms was negative.

Studies of firm deregistrations are another effort to capture the net effect of SOX. They too produce mixed results. Most studies find that SOX increased the number of going-dark transactions, with moderate or no impact on going-private transactions. However, these studies do not separate the effect of SOX from that of contemporaneous factors, such as financial market liquidity, which could have increased the rate of deregistration. Kamar, Karaca-Mandic, and Talley (2007) use a control group of foreign firms to address this problem. They find that, in the

first year after the enactment of SOX, the rate of going-private transactions in small public firm acquisitions increased in the United States more than abroad. In contrast, they do not find a negative effect among large firms.

Overall, the evidence offers qualified support for the view that SOX had a negative effect on the value of small firms, at least initially. This evidence should be interpreted with caution, however, for at least three reasons.

First, other hypotheses unrelated to the wisdom of SOX as a policy vehicle might also be consistent with these findings. For example, the event studies noted above measure the effects of SOX by looking at investor beliefs (as capitalized in stock price) at notable moments surrounding the enactment of SOX. But given the novelty of the requirements that SOX introduced and the delegation its provisions made to regulatory bodies and stock exchanges, investors could easily have been wrong about the future effects of SOX.

Second, one must account for the possibility that increasing compliance costs for small firms was warranted. For example, the deregistration studies suggest that SOX tipped the scales for some small firms in favor of exiting the public capital market. While on first blush this appears undesirable, it is possible that the exiting firms were opaque, risky, or prone to financial misstatements, and that the firms that remained public benefited from SOX more than the exiting firms lost.

Finally, both event studies and deregistration studies examine the initial period following SOX's enactment. It is important to understand the extent to which those initial effects represented one-time issues, or recurring ones. The decline in compliance costs since the enactment of SOX has already been noted, and the recent interpretive guidelines and audit standards may further decrease costs. Consequently, the puzzle surrounding the overall effect of

SOX is far from over. Additional empirical studies will almost certainly inform the policy debate for years to come.

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Appendix

Below we provide reasons offered by firms for their decision to go private or to go dark after the enactment of SOX.

Landair Corporation explains in a Schedule TO it filed on December 23, 2003 as part of its going private:

Over the past year, [the CEO and the chief operating officer] discussed in general terms the disadvantages faced by Landair as a smaller sized publicly-traded company. In particular, they noted the historically low trading volume for the common stock of Landair that resulted in an illiquid market for Landair's public shareholders; Landair's limited ability to attract institutional investors and equity research analyst coverage; the costs of (and efforts of management required as a result of) being a public company; and the reduced flexibility to focus on long-term business goals, as opposed to the more short-term focus that can result from quarterly earnings releases and filing requirements of the SEC.

In late September and early October of 2002, [they] concluded that these disadvantages were significantly outweighing the advantages of leaving Landair as a publicly-traded company controlled by [the CEO]. A factor contributing to this conclusion . . . was the enactment of the Sarbanes-Oxley Act of 2002 and the adoption of related rule proposals by the NASD. As a result of these developments and the current environment relating to the regulation of public companies, [they] anticipated significant increased costs in operating as a public company. They also believed that such increased regulation would place additional burdens on management that would further distract them from managing the business operations of Landair.

Similarly, Coast Dental Services explains in a Schedule TO it filed on March 4, 2003 as part of its going dark:

The Board of Directors of Coast Dental (the "Board") believes that the public market has not shown much interest in Coast Dental Shares the past few years and that Coast Dental has been unable to realize the principal benefits of being a publicly-traded company. Coast Dental Shares are very thinly traded and provide little, if any, liquidity for shareholders, particularly those shareholders with larger equity positions in Coast Dental. During the twelve months prior to February 1, 2003, the average daily trading volume of our Shares has been less than 2,000 and on approximately 27% of the trading days there were no Shares traded. In

addition, it is unlikely that Coast Dental could issue additional Shares to obtain financing because of the low trading price, low trading volume and illiquidity of the Shares.

The Board also believes that there are considerable costs and detriments in remaining a publicly-traded company. In addition to the substantial time expended by Coast Dental management, the legal, auditing, accounting and other expenses involved in the preparation, filing and dissemination of annual and other periodic reports are considerable and will likely increase significantly in the future as a result of the Sarbanes-Oxley Act of 2002. Additionally, management believes that required public disclosures under the Exchange Act give its competitors, some of which are not publicly-traded companies, certain information and insights about us that may help such competitors in competing against us.