

Sarbanes-Oxley and earnings quality

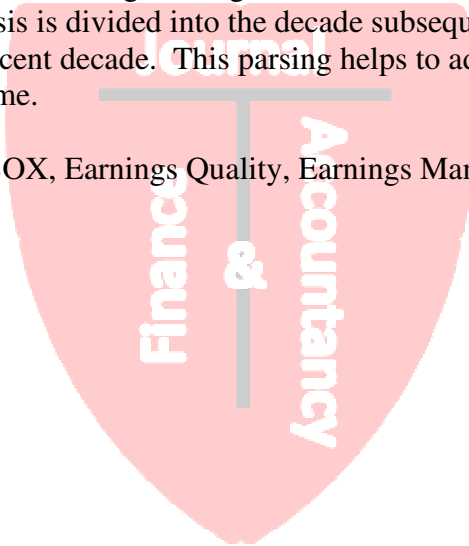
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ABSTRACT

This study reviews and summarizes the relevant findings of nearly two decades of accounting and finance research papers that focus on the links between the Sarbanes-Oxley Act (SOX) and the quality of reported earnings. This study, unlike numerous other studies, does not seek to address the broad question of whether SOX provides a net benefit or a net cost to business or society. Instead, this paper narrowly focuses on the links between SOX and earnings management, both accrual-based earnings management and real earnings management, and earnings restatements. Analysis is divided into the decade subsequent to the signing of the Act and the following and most recent decade. This parsing helps to address whether the effects of SOX are persistent through time.

Keywords: Sarbanes-Oxley, SOX, Earnings Quality, Earnings Management



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INTRODUCTION

The Sarbanes-Oxley Act (SOX, the Act) was passed by Congress in 2002 in response to a long string of costly accounting scandals among publicly traded US companies. The Act contains numerous provisions designed to improve auditor independence, corporate governance, and reporting transparency. Debate over the costs and benefits of SOX has been and continues to be intense and persistent. Researchers have produced volumes of studies investigating the effects of SOX on the business landscape, and researchers continue to produce new research exploring the effects of SOX nearly twenty years following its passage.

This study does not attempt to answer the nearly two-decades old question of whether SOX produces a net positive or net negative benefit for business and society. Nor does this study attempt to summarize the entire breadth of accounting and finance research on SOX. Readers seeking a broader review of SOX effects in the decade following passage can look to literature reviews by Coates and Srinivasan (2014) and Fischer, Gral, and Lehner (2014). Instead, the purpose of this study is to summarize the accounting and finance research surrounding one specific, important impact of SOX – how SOX has affected the quality of reporting earnings. While there is value in examining the Act and its effects in a wide and robust analysis, this study recognizes that there are an overwhelming number of facets of the Act and effects from the Act can lead to difficulties in organizing, understanding, and interpreting the voluminous body of SOX research that has been produced over the past two decades. The narrow focus of this study has been purposely chosen to assist in the analysis of specific aspects of SOX and to serve as a primer for those seeking an understanding of the research surrounding the effect of SOX on earnings quality.

The paper proceeds with a brief description of the Act and subsequent legislation affecting implementation of the Act, a review of research produced in the years following passage of the Act (2002-2012), research in recent years (2013-2020), and the potential for research going forward. Dividing the review period into the years following passage and recent years is useful in examining whether the earnings quality effects of SOX are persistent and consistent over time.

BACKGROUND

The Enron accounting scandal in 2001 is one of the most commonly cited scandals when discussing the motivation for SOX. While Enron is a particularly egregious example of corporate reporting malfeasance, it is worth noting that there were more major US accounting scandals in the year following Enron (24 scandals in 2002) than in the 20 years preceding Enron (15 scandals from 1981-2001). It was against this background of erupting corporate accounting scandals that Congress passed and President George W. Bush signed the Sarbanes-Oxley Act in 2002. The Act was designed to bolster auditor independence, increase auditor oversight, reform corporate governance, assure proper corporate internal controls, and increase corporate reporting transparency.

SOX seeks to support auditor independence in several ways. First, the Act limits the type of non-audit work that audit firms can perform. This led to most major accounting firms divesting their consulting practices into completely separate business entities. SOX also seeks to bolster auditor independence by requiring the systematic rotation of partners for audit engagements. This required rotation is designed to prevent long-term relationships between

audit partners and clients from undermining auditor independence. Beyond provisions focused on audit firms, SOX also makes corporate governance changes that affect auditor independence. The Act requires the establishment of corporate audit committees and defines the relationship between auditors and audit committees. This provision places the authority to hire and fire auditors with the audit committee and requires a direct reporting line between the audit committee and auditors.

Possibly the most significant change made by SOX regarding auditing is the establishment of the Public Company Accounting Oversight Board (PCAOB). The PCAOB is a quasi-governmental agency that has oversight over the audit industry. The board has the authority to establish required audit procedures and standards to maintain quality. The board also has the authority and responsibility to review the work of auditors to assure compliance with standards and laws.

SOX also requires major changes in how companies assure that their internal controls contain no material weaknesses. Section 404 requires audits of internal controls and reporting of material weaknesses for firms with market capitalizations above \$75 million.¹ The Act also requires timely reporting of material changes, reporting of off-balance sheet transactions, and personal attestations from CEOs that financial statements contain no material misstatements to the best of their knowledge.

These changes codified in SOX, taken individually and as a whole, were certainly expected to have an impact on the quality of reporting earnings at the time of passage and provided accounting researchers with a rich field of study. Numerous papers were published in the years following the passage of SOX examining the impact of the Act on the quality of reporting earnings. Studies on that link have continued through the present, nearly 20 years later. The next section of this paper reviews studies published in the decade following the passage of SOX.

Early Evidence (2002 – 2012)

Much of the research on the link between SOX and earnings quality focuses on earnings management issues, both accrual earnings management (AEM) and real earnings management (REM). There is a large and robust body of research providing evidence that AEM decreased in the post-SOX era. Cohen, Dey, and Lys (2008) find that, compared to the pre-SOX period, AEM decreased and REM increased in the first several years following SOX. Their results are consistent with the findings of Lobo and Zhou (2006) and Chhaochharia and Grinstein (2007) who find less AEM and more REM to beat earnings benchmarks following SOX. The findings of diminished earnings management post-SOX is again reinforced by the results from Koh, Matsumoto, and Rajgopal (2008) and Bartov and Cohen (2009) who find decreased earnings management to meet or beat analysts' forecasts of earnings, while Daniel, Denis, and Naveen (2008) document decreased earnings management for dividend payout purposes. Hossain, Mitra, Rezaee, and Sarath (2011) find that firms implicated in SEC backdating have higher accruals management in the pre-SOX period compared to firms that were not implicated but that this

¹ SOX did not explicitly contain an exemption from Section 404 requirements for smaller firms. Congress, instead, repeatedly delayed implementation of Section 404 for firms under \$75 million. This delay was made permanent in the Dodd-Frank Act passed in 2010. The JOBS Act of 2012 expanded this exemption to publicly-traded, but unlisted firms.

difference dissipates in the post-SOX period. Krishnan, Raman, Yang, Yu (2011) demonstrate that, while SOX does not change the likelihood of earnings management for firms with more socially connected CEO/CFO and boards, it does decrease earnings management in direct relation to the extent of social ties. Firms with a greater number of social ties between the CEO/CFO and the board have a greater decrease in earnings management post-SOX.

Several studies support the reduction in earnings management in more tangential ways by finding reductions in the use of accruals for reasons other than direct earnings management. Jiang, Petroni, and Wang (2010) find a positive relationship between executive equity incentives and accruals in the pre-SOX period, but that positive relationship disappears in the post-SOX period. In fact, they find a negative relationship between executive equity incentives and accruals in the post-SOX period. This suggests a significant sensitivity to the negative perceptions of accrual use for opportunistic reasons following SOX. Their findings are particularly interesting in light of results from Carter, Lynch, and Zechman (2009) who find that the relation between CEO cash compensation and reported accounting earnings increased in the post-SOX period. This suggests decision-makers in charge of compensation increased their trust in reported accounting numbers after SOX.

Iliev (2010) provides further evidence that SOX produced significant changes in the use of accruals. He compares the level of total and discretionary accruals for firms just above the \$75 million SOX 404 exemption level and firms just below that level. He finds that firms just above the exemption level, thus required to report under Section 404, had significantly lower total accruals and discretionary accruals than firms just below the exemption level. Lobo and Zhou (2010) compare Canadian firms listed on both Canadian and US stock exchanges (firms subject to SOX) with Canadian firms listed only on Canadian stock exchanges (firms not subject to SOX). They show a decrease in discretionary accruals in the post-SOX period for those firms under SOX requirements indicating companies become more conservative following implementation of SOX. These results are even greater for those firms that were considered aggressive prior to SOX. Singer and Yu (2011) also find evidence that SOX produced positive effects on reporting earnings. Similar to Lobo and Zhou (2010), they compare SOX firms with a control group of Canadian firms that were not subject to SOX. Their results indicated lower levels of intentional misstatements and higher predictive power of current earnings for future earnings and cash flows.

Lobo and Zhou (2006) also provide broader evidence of an increase in earnings quality following SOX through their finding of more timely loss recognitions post-SOX. The notion of SOX generating increased earnings quality is also supported by Ashbaugh-Skaife, Collins, Kinney, and Lafond (2008) who find that earnings quality properties increase following the remediation of ineffective internal controls discovered in Section 404 audits.

The impact of SOX on a specialized type of earnings management, cosmetic earnings management (CEM) was also investigated in the years following SOX implementation. CEM occurs when a company is very near a goal or desired level and they manipulate earnings to just reach that level. For example, a company could use earnings management to increase their income from \$2.46 million to \$2.50 million. It has been shown that individuals tend to remember and place the most emphasis on the first digit in a number with relative decreasing emphasis on each of the remaining digits in successive order (Brenner & Brenner, 1982). Therefore, \$2.46 million would most likely be remembered as \$2.4 million or even \$2 million without increasing this number to the next digit. Jordan and Clark (2011) document that CEM

has been occurring since the 1980s with some frequency but significantly decreased in the post-SOX period. Aono and Guan (2008) support this same post-SOX phenomena.

Another major stream of research following the passage of SOX is centered on earnings restatements. The volume of restatements increased dramatically in the years following SOX. This seemingly negative phenomena, however, is largely attributed to increased sensitivity of management to reporting errors and tighter thresholds for restatements. Numerous studies support the view that these restatements represented part of an adjustment period to the new SOX requirements. Plumlee and Yohn (2010) find that many firms attributed restatements in the post-SOX period to unintentional errors and confusion surrounding the implementation of new guidelines. Results from Hennes, Leone, and Miller (2008) offer support for the idea that at least a portion of post-SOX restatements were viewed less negatively. They parsed restatements into those which seemed to be truly irregular and those which appeared to be unintentional. They found a significantly milder negative market reaction to restatements resulting from unintentional errors. This is supported with results from additional studies such as Burks (2011), who found less negative reactions to restatements post-SOX even when controlling for the lower magnitude of restatements following SOX, and Burks (2010), who found lower disciplinary penalties against CEOs of restatement firms post-SOX. The evidence presented in the literature about the restatements following SOX, taken as a whole, suggest that these restatements were seen as part of an adjustment period as reporting moved into congruence with the new law, not as a continuation of reporting irregularities that motivated SOX.

Recent Evidence (2013 – 2020)

This study is divided into two time periods in order to better assess whether the effects of SOX are consistent and persistent through time. The question of whether SOX effects change over time can be found in Graham, Harvey, and Rajgopal (2005). In their interviews of executives, one is quoted in reference to the time period surrounding SOX as saying they would, "...go out of their way to assure stakeholders that there is no accounting-based earnings management in their books." This quote supports the idea that many of the changes in earnings reporting behavior that lead to higher earnings quality may not be permanent. They may, instead, be a result of high management sensitivity to the perception of reporting malfeasance willingness along with high vigilance for such actions by market participants. Wilson (2013) points out that whether the changes in earnings management behavior he and other researchers document in the years following SOX are permanent is an open question for future research. If these changes in reporting behavior are the result of structural changes from SOX, the one would expect those changes to be persistent. If these changes, however, were merely the result of a temporary increased sensitivity to the reporting climate of the time period, then one would expect a reversion towards reporting behaviors seen pre-SOX.

Much of the evidence on the impact of SOX on earnings management from the more recent time period is consistent with the earlier time period. There are, however, several studies that provide results that are at least partially inconsistent with results from the earlier period. Wilson (2013) examines the use of AEM and REM to meet or beat earnings benchmarks in the several years before SOX versus the several years following SOX. Like Cohen et al. (2008) he documents an increase in REM to beat earnings benchmarks. He, however, does not find evidence of a significant decrease in the use of AEM to beat earnings benchmarks. These results are similar to those found by Pincus, Wu, and Wang (2020) who replicate Cohen et al. (2008)

and also find weak evidence for decreases in AEM post-SOX and evidence of an increase in REM. They continue to analyze multiple time periods following SOX and find periods of increases and decreases for both AEM and REM. Geertsema, Lont, and Lu (2018) also provide evidence that decreases in AEM and REM post-SOX is not absolute. They find that new CEOs avoid downward earnings management post-SOX versus pre-SOX, however outgoing CEOs under performance pressure increased their use of AEM and REM to increase reported earnings post-SOX. Kama and Melumad (2020) suggest that the decline researchers measure in AEM following SOX may be the result of “camouflaging”. Their results indicate that firms increased their management of accruals cash conversion post-SOX to decrease the likelihood that external parties could detect AEM. Chen and Huang (2013) document that firms engage in AEM to decrease earnings prior to open-market repurchases to drive down the repurchase price prior to the enactment of SOX. They do not find this occurrence of earnings management post-SOX. These results indicate SOX disincentivized firms from engaging in AEM practices and there was no indication in the study that this decrease in AEM was replaced with REM. Rutledge, Karim, and Luo (2014) show a decrease in earnings management post-SOX for those firms with a Big 4 auditor but show those firms engaging a non-Big 4 auditor did not have a decrease in earnings management post-SOX. Several other studies also examine other earnings management issues post-SOX. Cazier, Rego, Tian, and Wilson (2015) examine the use of income tax reserves to manage earnings and find that SOX had no significant effect on managers’ use of these reserves to influence reported earnings. Li (2019) documents that REM has negative effects on earnings quality and that these negative effects have intensified post-SOX. These studies suggest the effect of SOX on earnings management is a more complex question than it may have initially appeared and is still an open question for researchers.

In contrast to papers that offer somewhat inconsistent results with the earlier period, many studies in recent years have offered evidence on the link between SOX and earnings management that is consistent with the evidence from the earlier period. Hsieh, Bedard, and Zehms (2014) offer evidence to refine the understanding of earnings management decreases post-SOX. They divide CEOs into non-confident and overconfident CEOs based on their holdings of in-the-money options. They find that pre-SOX there was no significant difference in the earnings management activities of the two groups. Post-SOX, however, only the earnings management behavior of overconfident CEOs persisted and was significantly higher than the non-confident CEOs. This suggests only CEOs with higher risk aversion were willing to engage in earnings management post-SOX. Francis, Hasan, and Li (2016) find that deviations in real operations from industry norms, a measure akin to REM, increased in its ability to predict stock price crashes post-SOX whereas the ability of discretionary accruals to predict stock price crashes decreased post-SOX. This is consistent with the rise in use of REM post-SOX. Cheng, Li, and Shevlin (2016) offered evidence that internal governance had a higher effect on REM post-SOX than pre-SOX. Again, this is evidence of the rise in the importance of REM post-SOX.

Several studies continue to examine CEM with mixed support for earlier research. Lin and Wu (2014) support earlier findings that CEM present pre-SOX is greatly decreased post-SOX. Jordan, Hatten, and Clark (2017) investigate these findings further and corroborate these results for large and medium firms but not for smaller firms. The sample is divided into quintiles based on firm size and exhibits that the last (smallest) quintile continues to engage in CEM post-SOX.

Two other papers continue research into alternate methods of earnings management following SOX. Li (2016) documents that classification shifting, reclassifying core earnings expenses as special items, declined post-SOX. Additionally, the magnitude of unexpected core earnings declined post-SOX. Rupp (2020) investigates the use of securitization, the sale of asset cash flow (e.g., sale of accounts receivables), across the SOX periods. Findings indicate that the use of securitization for opportunistic earnings management was widespread pre-SOX but declined post-SOX. These papers are consistent with the idea that SOX decreased the use of some types of earnings management while increasing others.

Several papers in recent years have also extended the investigation of earnings quality post-SOX. Courteau, Kao, and Tian (2015) offer evidence about the affect of accruals on earnings quality surrounding SOX. They find that pre-SOX residual income valuation models underperformed discounted cash flow valuation models for firms suspected of employing accrual manipulations to influence their reported earnings. The results show, however, that gap between valuation models closes in the post-SOX period. The authors interpret this as a mitigation of negative accrual effects post-SOX. Dutilleux, Francis, and Willekens (2016) compare the pre-SOX and post-SOX earnings quality of US-owned Belgian subsidiaries (subject to SOX) with Belgian subsidiaries not owned by US firms (not subject to SOX). They found that the subsidiaries subject to SOX had smaller accruals and more timely loss recognition than subsidiaries not subject to SOX. He and Thornton (2013) investigate investor perceptions of earnings quality and find that perceived earnings quality decreases following SOX disclosure of ICW compared to firms that do not disclose. However, investor perceived earnings quality increases following remediation of those ICW disclosures. Finally, Kedia, Koh, and Rajgopal (2015) investigate the contagion of poor accounting practices around SOX. They find that firms were less likely post-SOX to adopt poor accounting practices from their industry peers. These results again suggest that the positive effect of SOX on earnings quality documented in the early period has continued in recent years.

The research on the relation between SOX and earnings restatements has been more limited in recent years. One possible reason is the significant decline in the number and severity of restatements over time. Srinivasan, Wahid, and Yu (2015) and Cheng, Srinivasan, and Yu (2014) both document restatements have fallen significantly and the severity of restatements has significantly declined after the initial SOX implementation period. One paper does offer some insight about restatements in recent years. Herly, Bartholdy, and Thinggaard (2020) provide evidence that the decrease in accruals following restatement found in the years initially following SOX does not hold in more recent years. Instead, only firms with the most negative reactions to restatements show a significant decline in accruals afterwards. This is another indication that effects of SOX on earnings quality is not static.

Conclusions and Future Research

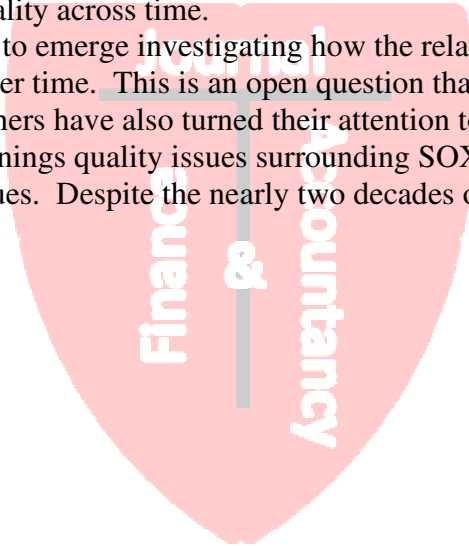
Congress passed the Sarbanes-Oxley Act in 2002 following an unprecedented string of accounting scandals among US firms. The Act seeks to increase auditor independence via limits on non-audit work, a requirement of audit committees for publicly traded firms, a reworking of the relationship between auditors and audit committees, and required audit partner rotations for clients. The Act also increases auditor oversight through the creation of Public Accounting Oversight Board which is authorized to oversee the US audit industry, establish standards, and review audit work to assure quality and adherence to standards and laws. Additionally, the Act

requires executives to personally certify the accuracy of financial statements, increases civil and criminal penalties for reporting malfeasance, requires audits to certify properly functioning internal controls, and requires disclosures of material weaknesses in internal controls. Research has shown that these various aspects of SOX have affected the quality of reporting earnings.

This study reviews the literature surrounding the important link between SOX and earnings quality. Prior literature reviews have sought to review the numerous and broad implications of SOX across business and have often sought to offer evidence on the question on whether SOX provides a net benefit or net cost to business and society. This paper does not seek to offer evidence on that question, nor to grapple with the incredibly sprawling effects of SOX. The narrow focus of this paper allows researchers to better understand a specific, important aspect of SOX.

Nearly 20 years have passed since the passage of SOX. This study divides that time into the decade following SOX (early period) and the remaining, more recent years (recent period). Doing so allows for an examination of whether the effects of SOX on earnings quality are consistent and persistent across time. Numerous papers from both time periods are reviewed and summarized. The analysis reveals that there are both consistencies and inconsistencies in the effect of SOX on earnings quality across time.

Research is beginning to emerge investigating how the relation between SOX and earnings quality has varied over time. This is an open question that is ripe for additional research. In addition, researchers have also turned their attention to specific and various types of earnings management and earnings quality issues surrounding SOX. This is again an area with many potential research avenues. Despite the nearly two decades of research in this field, many questions remain unanswered.



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