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# A Summary of Ten Years of PCAOB Research: What Have We Learned

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## **A Summary of 10 Years of PCAOB Research: What Have We Learned?**

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**ABSTRACT:** For the past 10 years, the Public Company Accounting Oversight Board (PCAOB) has operated as an independent overseer of public company audits. Over 70 percent of PCAOB studies have been published since 2010, evidencing the increasing relevance of PCAOB-related research in recent years. Our paper reviews the existing literature on the PCAOB's four primary functions – Registration, Standard-Setting, Inspections, and Enforcement. In particular, we examine PCAOB registration trends and evaluate the effects of PCAOB registration requirements on the issuer audit market, as well as discuss the relative costs and benefits (e.g., auditor behavior changes, improvements in audit quality, auditor perceptions) of the 16 auditing standards the PCAOB passed in its first 10 years of operation. Further, we summarize the literature's findings on the effects of the PCAOB inspection process on various facets of audit quality. Finally, we analyze the research concerning the PCAOB's enforcement actions to determine how markets have responded to sanctions against auditors and audit firms. We contend that understanding and reviewing the effects of the PCAOB's activities are important to future audit research because of the PCAOB's authority over and oversight of the issuer audit profession. We also identify PCAOB-related research areas that have not been fully explored and propose several research questions intended to address these research areas.

**Keywords:** Public Company Accounting Oversight Board (PCAOB), Registration, Standard-setting, Inspection, Enforcement

## **A Summary of 10 Years of PCAOB Research: What Have We Learned?**

### **1.0 INTRODUCTION**

On January 6, 2003, the Public Company Accounting Oversight Board (PCAOB) opened its Washington, D.C. office; three days later, the PCAOB held its first open board meeting, ending more than 100 years of self-regulation at the federal level by the public company audit profession [PCAOB 2013c; Ernst & Young 2012]. The PCAOB had been established six months earlier with the passage of the Sarbanes-Oxley Act (SOX) to protect the interests of investors and further the public confidence in the preparation of informative, accurate and independent audit reports [U.S. House of Representatives 2002]. Researchers, regulators, and practitioners have tried to understand the influence of the PCAOB for over a decade. For example, what impact has the PCAOB inspection process had on the auditing profession and audit quality? How have markets reacted to information disseminated by the PCAOB? How have PCAOB standards influenced auditor behavior? Accordingly, the objective of our paper is to review prior studies related to the four primary functions of the PCAOB (i.e., registration, standard-setting, inspections, and enforcement), synthesize the extant findings, and suggest directions for future research to address unanswered questions.

Over 70 percent of PCAOB studies have been published since 2010, evidencing the increasing relevance of PCAOB-related research in recent years. It is likely that in coming years, PCAOB research will continue to grow and broaden as data on each of the functions of the PCAOB become more available. The possibility exists that, as we learn more about the influence of the PCAOB, many prior conceptions in academic research about the role of auditors, auditors' obligations to their clients, and auditors' responses to external scrutiny may warrant reinvestigation or further exploration. While the breadth of the PCAOB research is fairly diverse,

we did identify some common themes. First, the research has concluded that PCAOB regulation drove many small audit firms out of the issuer audit market [DeFond and Lennox 2011; Read et al. 2004].<sup>1</sup> However, this does not necessarily imply that auditor exits from the issuer audit market were detrimental, as the auditors that remained appeared to be more independent, of higher quality, and less likely to be the target of PCAOB enforcement actions than the exiting auditors [DeFond and Lennox 2011].

Second, several papers have highlighted the costs and benefits of the PCAOB standard-setting activities (e.g., Smith [2012]; Wang and Zhou [2012]). For example, while some research supports AS3's increased focus on documentation (e.g., Payne and Ramsay [2008]), other research (e.g., Piercey [2011]) highlight unintended, adverse effects on auditor judgments (e.g., more lenient judgments).

Third, while some research questions the efficacy of the inspection process (e.g., Lennox and Pittman [2010], Glover et al. [2009]), several studies have contributed empirical evidence to support the position that the PCAOB inspection process has been beneficial to the auditing profession (e.g., Offermanns and Peek [2011], DeFond [2010]). Specifically, the extant literature contends the market penalizes audit firms for receiving inspection reports containing PCAOB-identified deficiencies [Daugherty et al. 2011] and, over time, the inspection process has appeared to lead to improved audit quality (e.g., Gramling et al. [2011], Landis et al. [2011]).

Fourth, enforcement actions and subsequent penalties borne by auditors that remained in the issuer audit market appeared to be relatively more severe for smaller audit firms [Gilbertson and Herron 2009]. However, enforcement actions levied against firms of all sizes resulted in

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<sup>1</sup> The PCAOB defines a small audit firm as an audit firm that regularly audits 100 or fewer issuers each year; these firms are inspected triennially.

negative repercussions to both auditors (e.g., auditor retention) and to audit clients [Dee et al. 2011].

Understanding and reviewing the effects of the PCAOB is important to future research because of the PCAOB's authority over the audit profession. The effects of the PCAOB's decisions can have far-reaching implications on how audits are conducted, the pricing of audits, the auditor/client relationship, the consequences of audit failure, and the public's confidence in the auditing profession. As the PCAOB's activities have increased in recent years (e.g., increased standard-setting docket, expanded inspection programs into dealer-broker audits), it is likely that the PCAOB will continue to affect the auditing profession in the coming years. Our review provides a foundation for future research by synthesizing and categorizing this emerging body of research, as well as discussing future research opportunities. We structure our review around a framework that is based on the four primary functions of the PCAOB (see Figure 1). That is, we categorize each paper into one or more of the following functional categories – registration, standard-setting, inspection, or enforcement. We examined PCAOB-related literature from the past 10 years by searching ABI Inform and Business Source Premier for academic papers containing the following keywords: PCAOB, Public Company Accounting Oversight Board, auditing standard, inspection, and enforcement. Additionally, we consulted the reference section of each paper reviewed to detect studies not identified during the initial search. While we focused on research that has been published in accounting research journals for the purpose of our review, we also reviewed a number of papers currently in progress and pending review.<sup>2</sup>

[Please insert Figure 1 here]

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<sup>2</sup> While our paper's aim is to synthesize PCAOB-related research over the past decade, it is worth noting that reviews by Schneider et al. [2009] and Asare et al. [2013] both provide reviews of the ICFR literature. While we summarize the findings of these two reviews, our review will focus on studies not covered in either of the two previous reviews.

## 2.0 REGISTRATION

SOX [U.S. House of Representatives 2002], Section 102, states it shall be “unlawful for any person that is not a registered public accounting firm to prepare or issue, or to participate in the preparation or issuance of, any audit report with respect to any issuer.” Registration subjects each firm to the oversight activities assigned to the PCAOB for the protection of investors [PCAOB 2012a]. The registration process allows the PCAOB to recognize a firm as meeting the minimum requirements to audit public issuers (though the registration process does not bear with it any assurance of audit quality), as well as requires periodic reporting from registered firms [PCAOB 2010a]. The periodic reporting requirements (1) keep the PCAOB informed of basic demographic changes in the firm and its members, (2) reflect the extent and nature of the firm’s audit practice related to issuers, and (3) inform the PCAOB of any circumstances that merit follow-up through the PCAOB’s inspection process [PCAOB 2012a].

Registration and reporting with the PCAOB is a relatively simple process that requires firms to complete two forms.<sup>3</sup> The PCAOB provides detailed instructions to prospective audit firms on how to prepare Form 1: Application for Registration [PCAOB 2010a]. Applicant firms pay a one-time registration fee based on the number of issuer audit clients they engaged in the preceding year. Following registration approval, registered firms are required to submit Form 2: Annual Report on a yearly basis; detailing the activities and services provided by the firm to its issuer clients. Similar to the registration fee, firms pay an annual reporting fee based on the number of issuer clients from the preceding year [PCAOB 2011b].

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<sup>3</sup> There are technically five forms, however, three of the forms are required by the PCAOB only in special cases. Form 3 – Special Report is generally required when a firm audits an issuer client that has had prior compliance issues or has been engaged in ongoing legal proceedings. Form 4 – Succeeding to Registration Status of Predecessor is used in rare situations where a registered firm merges with or is acquired by a non-registered firm. Finally Form 1-WD: Request to Withdraw from Registration is required only when a firm wishes to deregister from the PCAOB.

Figure 2 provides the number of audit firms registered with the PCAOB from 2004-2012.<sup>4</sup> The first bar in each year is the number of US registrants; the second bar is the number of Non-US registrants; and the third bar is the total number of registrants. Of note is that the number of registered firms appears to significantly increase in 2009.

[Please insert Figure 2 here]

## 2.1 Registration Literature

Despite the significance of the registration process, there is a paucity of academic literature regarding registration with the PCAOB. To date, we found only two academic papers on the subject of registration. Further, those two papers focus only on the causes of firm deregistration (presented in Table 1 below). Specifically, Read et al. [2004] investigated the effects SEC rule changes and PCAOB oversight following the passage of SOX; and provided empirical evidence about audit firms whose clients are limited to the immediate local area or region and changes in the market for SEC audits. They examined all Form 8-Ks associated with auditor resignations from 2000-2003. In 2002-2003, they identified 47 local and regional audit firms that were ceasing all SEC audits; while they identified only eight such firms in 2000-2001. Interviews with audit partners of local and regional firms provided evidence that the primary reasons for ceasing SEC audits were the perception of a more stringent oversight by the then recently created PCAOB, increased professional liability insurance costs, and increased scrutiny by the SEC.

Read et al. [2004] also found that many local and regional audit firms with *no* SEC clients voluntarily registered with the PCAOB. Follow-up interviews with partners of these firms indicated that the reason for voluntary registration was to signal audit quality to non-SEC

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<sup>4</sup> All totals were taken from PCAOB Annual Reports from 2004-2012.



registered clients and other stakeholders of the firm.<sup>5</sup> This suggests a perceived benefit to registration, even though registration with the PCAOB conveys no actual assurance of audit quality.

[Please insert Table 1 here]

DeFond and Lennox [2011] extended Read et al.'s [2004] findings that PCAOB oversight influenced the likelihood that small firms (audit firms that regularly audit 100 or fewer issuers each year) would continue to audit public issuers. Specifically, DeFond and Lennox examined all small audit firm exits (i.e., a firm that stopped auditing SEC registrants and deregistered with the PCAOB) from 2001-2008. Their sample contained 1,233 small audit firms, of which 607 firms (49 percent) exited the market during the analysis period. Most (394 firms, 65 percent) exited the market shortly after the passage of SOX (i.e., 2002 to 2004). DeFond and Lennox contend that the exodus of these firms improved audit quality for issuers, as they were more likely to avoid AICPA peer reviews, fail to comply with PCAOB rules, and/or receive more severe peer review or inspection reports.

### **2.1.1 Future Research Opportunities**

Currently, both academic papers that investigated the registration process have focused on the determinants of deregistration. We believe that there are two primary areas of future research in the registration process. First, based on Read et al.'s [2004] finding that partners believe voluntary registration signals audit quality to non-SEC registered clients and other stakeholders of the firm, we believe that opportunities exist in understanding stakeholders' perceived intrinsic value of PCAOB registration. For example, it would be beneficial to

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<sup>5</sup> Many firms registered with the Board perform no audit work for issuers, brokers, or dealers, and the Board does not inspect those firms [PCAOB 2012a].

understand whether, for accounting firms with no issuer clients, PCAOB registration influences external stakeholder perceptions and judgments. Additionally, there may be some interest in exactly what type of signal PCAOB registration carries in the market. Second, we believe the periodic and special reporting requirements (e.g., a firm or partner becoming a defendant in a criminal proceeding) could contain valuable information. For example, is the relative frequency of instances in which a firm, or partner at the firm, is named as a defendant in a criminal proceeding (i.e., Form 3) associated with audit quality? Finally, as stated previously, there was a sharp increase in firm registrations in 2009. Are there identifiable environmental or exogenous factors that led to the increase in registrations in 2009?

We propose the following research questions:

- RQ1** How does PCAOB registration affect external stakeholder perceptions?
- RQ2** Do non-public audit clients interpret PCAOB registration to be a signal of higher audit quality?
- RQ3** Do audit firms that routinely submit special reports to the PCAOB (i.e., Form 3) have higher/lower audit quality than firms that do not?
- RQ4** What led to the sharp increase in PCAOB registrations in 2009?

### **3.0 STANDARD-SETTING**

SOX, Section 103, gives the PCAOB the authority to establish and modify audit standards for public companies, subject to SEC approval. In April 2003, the Board adopted mainly preexisting AICPA generally accepted auditing standards as its interim standards [PCAOB 2013c].<sup>6</sup> The PCAOB has established 16 SEC-approved audit standards to date. Table

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<sup>6</sup> These interim standards can be superseded by any subsequently established PCAOB auditing standard (e.g., AS16 superseding AU 310).

2, Panel A, presents a list of adopted auditing standards, while Panel B presents all current docket items related to releases and discussions on proposed standards.

[Please insert Table 2 here]

The PCAOB regularly monitors audit risks, challenges, and the prevailing economic environment when setting and modifying its standard-setting agenda [PCAOB 2012c]. The Board also takes into consideration (1) issues arising as a result of its oversight of registered public accounting firms (e.g., auditor's reporting model, fair value measurements, quality control), (2) the continual need to improve interim audit standards adopted by the Board, and (3) input from its Standing Advisory Group (SAG), its Investor Advisory Group (IAG), and discussions with the SEC [PCAOB 2012c]. The Board also considers the activities of other standard-setting bodies, both domestic and international, along with current accounting research trends, emerging issues, and feedback solicited from the public [PCAOB 2012c]. Nevertheless, some contend that the PCAOB's standard-setting process may be flawed and misguided [e.g., Glover et al. 2009]. While many studies have investigated the effects of SOX on varying facets of the financial statement reporting process and financial statement quality (e.g. Ashbaugh-Skaife et al. [2007], Doyle et al. [2007]), relatively few studies have focused on the effects of specific auditing standards enacted by the PCAOB. Our focus in this section is on studies that examined the effects of the PCAOB's standard-setting activities (e.g., Auditing Standards Nos. 3, 7, etc.). The reviewed literature is summarized in Table 3.

[Please insert Table 3 here]

### **3.1 AS2 and AS5 - Internal Controls Evaluations and Assessments**

Section 404 of SOX mandated testing of internal controls over financial reporting (ICFR) by the external auditors. Post-SOX, the standards for conducting integrated ICFR financial

statement audits were established initially in AS2, and later superseded by AS5.<sup>7</sup> A robust stream of literature has studied ICFR audits, AS2 and AS5, particularly in regards to the effects of these two standards on audit fees, audit delays, and the disclosure (in an audit opinion) of internal control deficiencies. These studies have largely been reviewed in one of two recent synthesis papers – Schneider et al. [2009] or Asare et al. [2013]. In an effort to not overlap these studies, our review focuses on papers not previously reviewed, and focuses on the key findings of papers published subsequently.

Schneider et al. [2009] synthesized the literature as it related to characteristics of companies reporting ICFR deficiencies, and the effects of adverse ICFR reports on financial statement users and audit firms. Their review highlighted that increased auditor involvement in ICFR reporting was associated with increased detection and disclosure of internal control deficiencies (ICDs), and that the existence of a material weakness in ICFR was associated with longer audit delay. Schneider et al.'s review also found the extant literature indicated that auditors that issued adverse ICFR opinions were more likely to not be ratified by their clients, and that the implementation of required ICFR reports led to significant increases in audit fees.

Asare et al. [2013] contended that the Board's justification for issuing AS5 was to allow auditors to exercise more judgment and to focus auditors on the most important matters of the audit. Because Schneider et al.'s [2009] primary focus was not auditor decision making, Asare et al. [2013] synthesized (primarily) post-SOX studies that have focused on understanding and improving auditors' ICFR decisions. Their review suggested that auditors have adjusted their methodology to apply the top-down risk-based approach emphasized in AS5, with an attendant decrease in cost to companies (compared to AS2). The authors' review also found that auditors

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<sup>7</sup> For a detailed background of the *evolution* of ICFR auditing standards, please see Asare et al. [2013]

have difficulty assessing risk in complex accounting systems, might be overconfident in their risk assessments, but that proper documentation could improve auditor judgment.

Since these two reviews, a handful of studies have furthered our understanding of AS2 and AS5. For example, Bronson et al. [2011] examined delays in audit reporting under AS2 for 26,731 firm-year observations from 2000-2005. Bronson et al. contended that the stringent testing requirements under AS2 (not solely companies with ICFR material weaknesses as Schneider et al. [2009] contended) resulted in auditors' reports being released later than prior to AS2. Further, Bronson et al. examined the severity of this "audit report lag" following AS2, and whether this phenomenon was associated with reduced reliability in earnings announcements. They found that audit reports were issued 10 to 15 days later on average following AS2. Further, these delays in audit reporting appeared to be associated with more frequent revisions in earnings estimates by audit clients, indicating that preliminary earnings information post-AS2 was less reliable than it had been prior to the enactment of the standard.

In an effort to evaluate whether efficiencies gained by AS5 came at a cost of decreased auditor risk assessment decision making, Mock et al. [2009], using the Dempster-Shafer theory of belief functions, developed a risk-based evidential reasoning approach for assessing the effectiveness of ICFR. The authors used this model to evaluate the risk assessment approach set forth in AS5 and determined the overall effectiveness of AS5 relative to the model standard. They found that the ICFR approach in the post-AS5 environment was quantitatively similar to the pre-AS5 approach; however, the cost savings realized under AS5 should lead to more efficient ICFR assessments overall.

One way in which AS5 allowed auditors to exercise judgment and increase ICFR audit efficiency was to enable external auditor reliance on internal auditors when the internal audit

activities met certain criteria [PCAOB 2007]. Asare et al. [2013] suggested that while the PCAOB has emphasized that auditors can perform an efficient, integrated audit by leveraging the work of others, auditors must be cautious because client-provided documentation and assessments have the propensity to bias auditor assessments. Bame-Aldred et al.'s [2013] findings complement Asare et al.'s findings in that they proposed that the environment in which external auditors must make a reliance decision is complex—involving several factors that must be considered simultaneously. Moreover, the authors contend that an evolving set of auditing standards introduces several necessary intermediary judgments that the external auditors must process before, and during, reliance on the internal audit function.

Similarly, Smith [2012] tested investors' perception of the tradeoff between efficiencies gained by external auditors by relying on internal auditors and the negative effects on the perceptions of audit quality due to the increased reliance. Based on his survey of MBA students at a large public university, Smith examined how participants' investment decisions varied based on changes in the audit testing environment (representing the actual transition from AS2 to AS5). Smith observed that participants under the AS5 condition were more likely to expect the changes in the auditing standard to reduce audit quality. Additionally, while the intention of the standard was to reduce overall costs, investors perceived this change as a reduction in internal controls' effectiveness and efficiency.

Finally, Wang and Zhou [2012], using 4,132 firm-year observations from 2008 as well as two matched control samples, examined audit fee changes following AS5. More importantly, the authors also investigated overall audit quality (measured using abnormal accruals and meet-or-beat analysts' forecasts) pre- and post-AS5 to determine if there was any change in audit quality following the enactment of AS5. While they found results consistent with the aforementioned

studies (i.e. audit fees decreased noticeably between AS2 and AS5), the authors did not find any evidence of a corresponding decrease in audit quality. The authors cited their results as evidence that AS5 was successful in its objective of reducing ICFR testing requirements without sacrificing overall audit quality.

### **3.1.1 Future Research Opportunities**

Given the significance of the change from AS2 to AS5, we believe there are opportunities for future research in this area. For example, it is possible that AS5 reversed some of the trends observed when AS2 was originally enacted. That is, both Lennox and Pittman [2010] and DeFond and Lennox [2011] observed auditor exits from the public audit market following the creation of the PCAOB – often citing increased oversight and compliance effort. Following the reduced testing requirements of AS5, have auditors who had previously exited the public audit market re-entered?

We propose the following research question:

**RQ5** Did audit firms that deregistered from SEC audits following the passage of AS2 reregister for SEC audits following the passage of AS5?

### **3.2 AS3 - Audit Documentation and Associated Risk Assessment**

AS3 establishes general requirements for documentation that the auditor should prepare and retain in connection with engagements conducted pursuant to the standards of the PCAOB [PCAOB 2004]. Of note is that AS3 substantially increases auditors' obligations to document their risk assessments [Piercey 2011], and requires audit firms to use more detailed audit workpapers and fewer summary memos to document their procedures [Payne and Ramsay 2008]. While not as widely examined as ICFR testing, two studies have investigated the positives and negatives of increased audit documentation requirements.

Payne and Ramsay [2008] explored the overall usefulness of expanded documentation requirements under AS3. Using an experimental setting, Payne and Ramsay [2008] examined the frequency and duration that auditors spent examining audit evidence based on whether detailed documentation was required, or if auditors could rely on summary memos to document their testing. While detailed documentation was associated with more extensive reviews of audit evidence, the use of summary memos was associated with more frequent references to the evidence. Further, the increased duration associated with detailed documentation appeared to lead to better error detection. However, the increased frequency associated with the use of summary memos resulted in better memory of the evidence. These results support the importance of the PCAOB's focus on documentation, as well as the need for auditor self-review of prepared documentation.

Piercey [2011] tested whether the “not documented, not done” condition placed on audit testing following AS3 improved auditor judgments. He found that increased audit documentation tended to be associated with more lenient auditor judgments. While the increased documentation requirements provided more detail regarding the audit evidence, this detail tended to be qualitative justification for the auditor's position. Piercey [2011] contended that the PCAOB's documentation requirements may have had unintended effects, with adverse implications for audit effectiveness contrary to the PCAOB's regulatory intent.

### **3.2.1 Future Research Opportunities**

Given the proprietary nature of audit documentation, archival investigations in this area would be difficult to accomplish without being granted access to firms' workpapers. That being said, experimental investigations have the opportunity to investigate the effects of AS3 more readily. Specifically, are increased documentation requirements associated with higher



compliance costs (e.g., staffing decisions, budget for review time, audit pricing)? While a great deal of the effort involved in audit documentation rests with the auditors, the acquisition of this information may require more work on the part of the clients as well. What are the behavioral/relational effects of increased documentation requirements from a client perspective? Are the number of risks identified during an audit reduced in response to the enhanced documentation of these risks (either consciously or logistically because each risk requires so much documentation that resources are constrained)? Given the instances of documentation deficiencies identified by the PCAOB in its inspection process, can a better methodology be developed for auditors use when determining the sufficiency of documentation?

Finally, given the 2013 disclosure of PricewaterhouseCooper's 2009 and 2010 quality control issues (i.e., failure to perform sufficient procedures, or include in its work papers sufficient evidence, to support its opinion on ICFR or its controls-reliance strategy [PCAOB 2010c]), the possibility exists that there will be an increased effort in ICFR documentation amongst firms to avoid PCAOB-identified deficiencies. Will increased documentation and effort requirements for reliance strategies mitigate AS5 efficiency gains?

We propose the following research questions:

- RQ6** What is the relationship between increased documentation under AS3 and audit planning decisions?
- RQ7** Do clients perceive documentation requirements under AS3 differently than they did prior to AS3?
- RQ8** Does the quantification of risks under AS3 result in lower or higher quality assessments of identified risks?
- RQ9** Have evolving documentation requirements offset the efficiency gains of internal audit function reliance under AS5?

### **3.3 Additional Standard-Setting Literature**

The Board has sought to give a wide variety of stakeholders (e.g., investors, auditors, preparers, and academics) the opportunity to provide input on standards as they are developed [PCAOB 2013d]. This input-seeking methodology has allowed several academics the opportunity to provide both opinions on and empirical research about proposed standards. For example, in anticipation of AS7 concerning engagement quality reviews (EQRs) (which was ultimately enacted by the PCAOB in 2009), Epps and Messier [2007] analyzed the written guidance and practice aids of six international accounting firms to determine best practices for EQRs. They noted fairly consistent responses across all firms; though there were some noteworthy differences regarding reviewer assignment, participation, and the use of practice aids. Epps and Messier contended that their results provided a base for the PCAOB in setting its standard for EQRs.

Similarly, Lambert et al. [2013] explored potential, unanticipated, effects of PCAOB Release No. 2011-007, which discusses a potential amendment to current auditing standards that would require engagement partners to sign the audit report [PCAOB 2011d]. They found that prospective investors were less likely to invest in a peer firm linked to a restating firm via a shared audit partner. They contend that in an era of audit partner identity disclosure, client performance and event history would become inextricably linked to a partner and his/her reputation – eventually causing a shift in partner incentives and independence.

Conversely, Carcello and Li [2013] examined a sample of firms in the United Kingdom (where engagement partner disclosure is already required) to determine the relative costs and benefits of such a disclosure. While they found that engagement partner disclosure was associated with increases in audit fees (presumably due to the increased exposure risk borne by audit firms), the authors also found that engagement partner disclosure was associated with

decreases in earnings management, increases in the issuance of qualified audit reports, and increases in earnings informativeness.

Finally, as part of the process for obtaining feedback on proposed changes to the standard auditor's report (SAR), the PCAOB surveyed professional organizations and accounting professionals regarding their opinions of PCAOB Release No. 2011-003. The PCAOB's proposed changes would more clearly define the purpose of the SAR; and delineate the respective responsibilities of management and the independent auditor [PCAOB 2011c]. As a complement to the PCAOB's survey, Giacomino and Akers [2012] performed a survey of accounting students ("future preparers and users of the financial statements") regarding their opinions on the proposed changes to the SAR. While there was some level of indifference to the proposed PCAOB changes on the part of the students (presumably due to a lack of real-world experience), the authors conclude that the parties surveyed all expressed similar concerns regarding the potential for increased auditor liability, decreased client confidentiality, and the potential impairment of independence.<sup>8</sup>

### **3.3.1 Future Research Opportunities**

To date, researchers have investigated only a select few of the PCAOB's 16 auditing standards. We believe that several of the PCAOB's recent and proposed auditing standards present investigable topics. For example, AS8 concerns the auditor's consideration of audit risk in an audit; and is qualitatively similar to the risk assessment standards adopted by the Accounting Standards Board (ASB) in March of 2006. While most of the international audit firms adopted the ASB standards, the implementation of AS8 provides an opportunity to

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<sup>8</sup> It should be noted that, subsequent to the publication of Giacomino and Akers' study, the PCAOB added PCAOB Release No. 2013-005 (an update to PCAOB Release No. 2011-003), containing proposed standards and amendments, to its docket of current activities [PCAOB 2013b].

examine how, and to what extent, the increased guidance provided by the PCAOB reduced audit risk for local and regional audit firms that are registered with the PCAOB. Were audit failure rates lower after the enactment of AS8? Behaviorally, or from a structured interview format, researchers could investigate how, if at all, these auditors changed their audit risk assessment process as a result of AS8.

We propose the following research question:

**RQ10** Were audit failure rates for local and regional audits lower following the enactment of AS8?

#### **4.0 INSPECTIONS**

SOX, Section 104, requires the PCAOB to inspect all registered public accounting firms in connection with a firm's performance of audits, issuance of audit reports, and related matters involving issuers [U.S. House of Representatives 2002]. Further, if a registered firm provides more than 100 issuer audit reports in a given year, the PCAOB must inspect it at least annually; all other issuer auditors are subject to triennial inspections. The PCAOB inspects both U.S. and non-U.S. registered accounting firms to assess compliance with SOX, the rules of the Board, the rules of the SEC, and professional standards, in connection with the firm's performance of audits and issuance of audit reports [PCAOB 2011e].<sup>9</sup> During inspections, the PCAOB routinely evaluates the accounting firm's quality of work and examines its practices, policies, and procedures [PCAOB 2011e].

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<sup>9</sup> For foreign-based registered firms, the PCAOB's website [<http://pcaobus.org/International/Pages/default.aspx>] states, "... non-U.S. registered firms are subject to PCAOB inspections in the same manner as U.S. firms. This often raises special considerations. The Board ... adopted a cooperative framework that allows the PCAOB to rely ... on inspection or enforcement work performed by a home-country regulator ... By developing cooperative arrangements with its counterparts, the PCAOB endeavors to minimize administrative burdens and ... conflicts that non-U.S. registered firms may face. In countries without an independent audit regulator ... the PCAOB still seeks to coordinate with the relevant financial regulator or government ministry before commencing inspections."

Figure 3 provides details on PCAOB inspections conducted since its inception.<sup>10</sup> First, Panel A presents the number of audit firms inspected each year by the PCAOB from 2004-2012. Specifically, the first (second) [third] bar in each year is the number of annually (triennially) [total] inspected audit firms for said year. Panel B shows the number of issuer audits that were inspected from 2005-2012.<sup>11</sup> The first (second) [third] bar in each year is the number of issuer inspections resulting from the inspections of annually (triennially) inspected firms.

[Please insert Figure 3 here]

The selection of issuer audits for review is influenced by a number of factors, including (1) the risk that an issuer's financial statements could be materially misstated; (2) characteristics of the particular issuer or its industry; (3) the audit issues likely to be encountered; (4) considerations about the firm, a particular practice office or an individual partner; and (5) prior inspection results [PCAOB 2012a]. DeFond [2010] contended that it is important to study the consequences of inspections because (1) PCAOB inspections potentially impact auditors' incentives, (2) the inspections are a central feature of the shift to quasi-governmental regulation of the U.S. auditing profession, and (3) the shift from old AICPA peer reviews to the new PCAOB inspections is potentially interesting because it represents a trade-off of expertise for independence. The reviewed literature is summarized in Table 4.

[Please insert Table 4 here]

#### **4.1 Deficiency Reporting**

Anantharaman [2012] directly compared outcomes from self-regulation (i.e., peer reviews) and statutory regulation (i.e., PCAOB inspections) for the same group of firms. She

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<sup>10</sup> All totals were taken from PCAOB Annual Reports from 2004-2012.

<sup>11</sup> Inspection totals for 2004 were not provided in the 2004 PCAOB Annual Report, so our data is limited to the period from 2005-2012.

found that firms that chose their own peer reviewers tended to receive peer review opinions more favorable than their subsequent PCAOB reports, suggesting that some firms obtained ‘friendly’ reviews. However, reviewers with industry knowledge were less likely to give favorable reviews, and reviewers from the same geographic area were likely to give peer reviews that were more negative than the subsequent PCAOB reports.

From a descriptive perspective, Hermanson et al. [2007] were the first to quantify PCAOB-identified deficiencies and trends. Examining 316 small accounting firm (i.e., those with 100 or fewer issuer clients) inspection reports through July 2006, the authors documented that 60 percent of inspected small firms had audit deficiencies, received approximately 1.6 deficiencies per report, and had a high (70 percent) incidence of unremediated (disclosed) quality control criticisms. The authors noted that firms with audit deficiencies were growing more rapidly than firms without deficiencies, suggesting an over-extension into the issuer audit market by some firms or an over-extension of firm resources.

Similarly, Church and Shefchik [2012] provided descriptive analyses of the inspection results for large accounting firms (i.e., those with more than 100 public clients) through 2009. They found that large firms experienced, on average, 14 auditing deficiencies per report, and that 100 percent of large firms received both audit deficiencies and quality control criticisms each year. However, in their sample period, none of the quality control criticisms warranted public disclosure because firms made reasonable progress in addressing the criticisms within a 12-month period following the report.<sup>12</sup> The authors noted the number, as well as the severity (e.g., those that result in a misstatement), of PCAOB-identified auditing deficiencies had significantly

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<sup>12</sup> Subsequent to the Church and Shefchik [2012], two large firms (Deloitte and PricewaterhouseCoopers) had their quality control criticisms released to the public.

decreased over time. However, the most recent report on PCAOB inspections stated that PCAOB-identified audit deficiencies are on the rise again [PCAOB 2012d].

Finally, Bishop et al. [2013] examined 175 first-time and 56 second-time inspection reports for international firms through early 2012. The authors found that over half of the inspection reports identified audit deficiencies, and two-thirds cite quality control defects. Further, they found that (1) firms with PCAOB-identified deficiencies were smaller, but had more issuer clients than firms without PCAOB-identified deficiencies, (2) affiliates of Big 4 firms were less likely to have audit deficiencies, and (3) whether the PCAOB acted alone or cooperated with a local regulator had no influence on inspection results. The authors cited many of the same issues as had been previously examined for U.S. firms (c.f., Hermanson et al. [2007]), in that they contended most of the identified deficiencies were the result of smaller firms over-extending into the issuer audit market. However, they noted that unlike U.S. firms, there was no difference in the rate of audit deficiencies or quality control defects for first-time versus second-time inspections.

#### **4.2 Inspection Efficacy**

Before reviewing literature that examines the effectiveness of the PCAOB inspection process and its reports (presented in Table 4 Panel B), it is important to understand that the goal of the PCAOB inspection process is to assess compliance with the standards and to improve *actual* audit quality, and not necessarily to provide informative reports to make judgments about quality [PCAOB 2012b]. Further, the PCAOB stresses that it is not the purpose of an inspection to review all of a firm's audit work or to identify every respect in which reviewed work is deficient, and an inspection report should not be understood to provide any assurance of the firm's audit work [PCAOB 2011e]. Regardless of these limitations, and interpretive value of the

reports, researchers have begun to investigate the efficacy of the inspection process on audit quality.

Particularly, researchers have examined the effects of the inspection process in spite of two empirical challenges. First, the reports do not identify the issuers inspected. Second, the PCAOB uses a risk-based approach to select engagements for review; thus, the sample of issuers and identified deficiencies are not necessarily representative of the population. Given these data limitations, audit quality is generally not directly observable [Abbott et al. 2012], and, accordingly, most research examines variables that indirectly infer audit quality (e.g., auditor dismissals after an inspection report). For example, Lennox and Pittman [2010] examined 545 inspection reports issued through 2007 and tested for, but found no association between, PCAOB-identified deficiencies and subsequent changes in clients' audit firm choices. The authors contended that, due to the lack of information publicly disclosed by the PCAOB inspectors, less is known about audit firm quality under a PCAOB inspection regime than under the AICPA peer review regime (c.f., Hilary and Lennox [2005]).

Glover et al. [2009] shared similar concerns with the efficacy of the inspection process. In particular, the authors contended that the inspection process is flawed for several reasons. Of primary concern is (1) that the public cannot easily distinguish between trivial and significant inspection issues, and (2) the untimely feedback provided by the inspection process. However, DeFond [2010] contended that simply because the inspection process fails to provide information value does not mean it fails to improve audit quality (or at least perceived audit quality) – a contention that has been supported by an increasing amount of research.

For example, Daugherty et al. [2011], after analyzing client retention subsequent to the issuance of 748 inspection reports for triennially inspected firms, found that triennially inspected



firms with PCAOB-identified deficiencies were more likely to be involuntarily dismissed by their clients, and companies dismissing triennially inspected auditors were more likely to hire triennially inspected firms for which the PCAOB did not identify any deficiencies. Accordingly, they suggest that PCAOB-identified deficiencies may be costly to triennially inspected auditors.

Similarly, Landis et al. [2011] examined 339 inspection reports of triennially inspected firms that contained audit deficiencies from 2005-2008; representing 1,015 audit deficiencies. They classified each audit deficiency according to the area and type of audit failure. A majority of the deficiencies were categorized into account deficiencies, which entailed inadequate procedures associated with certain accounts. Regarding types of audit failures, nearly 90 percent of the examined deficiencies were due to inadequate tests or documentation on the part of the auditor. The authors also noted that the number of PCAOB-identified deficiencies was higher in the first two years of their sample (287 and 379 deficiencies for 2005 and 2006, respectively) than in the last two years of their sample (149 and 200 for 2007 and 2008, respectively), suggesting that audit quality has improved as a result of the PCAOB inspection process.

In another study, Abbott et al. [2012] classified inspection deficiencies into three categories – (1) clean, (2) GAAS-deficiencies, or (3) GAAP-deficiencies. Using a sample of all triennially inspected, non-foreign registered firms from 2005-2007, they found that clients of PCAOB-identified GAAP-deficient, triennially inspected auditors were more likely to dismiss their auditors in favor of triennially inspected auditors that were not GAAP-deficient. In addition, the authors found greater agency conflicts, outside blockholdings, or the presence of an independent and expert audit committee magnified this effect. The authors found no evidence that the clients used GAAP-deficient inspection reports to reduce audit fees in subsequent years.

More direct measures of inspection reports' associations with audit quality have been examined as well. For example, Gramling et al. [2011] examined whether PCAOB-identified audit deficiencies were associated with a change in triennially inspected audit firms' issuance of going concern opinions. The authors used Audit Analytics and inspection reports to associate the frequency of going concern opinions issued from 2004-2006 for 407 triennially inspected firms (11,879 client-year observations). They found that firms were more likely to issue going concern opinions subsequent to receiving an inspection report containing PCAOB-identified deficiencies. The authors suggested that this change in behavior was either (1) an increased willingness, following a PCAOB inspection, for the audit firm to "stand up to the client" and "be tough" on important reporting issues, and/or (2) an increased level of competence brought to the reporting decision.

Gunny and Zhang [2012], used use three measures of audit quality (abnormal accruals, restatements, and the propensity to issue a going concern opinion), and examined the association between PCAOB-identified deficiencies in 527 inspection reports from 2005-2009 and audit quality. The authors found that triennially inspected firms whose PCAOB inspection reports contained serious deficiencies (i.e., auditor failed to prevent a GAAP departure) were associated with lower audit quality. Specifically, the authors found clients of triennially inspected auditors that received deficient or seriously deficient reports were associated with significantly higher abnormal current accruals, and clients of auditors that received a seriously deficient report were associated with a greater propensity to restate.

Similarly, Carcello et al. [2011] examined Big 4 clients' abnormal accruals after their audit firms' first two inspection years (2004-2005). The authors found a significant reduction in abnormal accruals in the year following the first PCAOB inspection, and found a further

reduction in abnormal accruals in the year following the second PCAOB inspection; consistent with the conclusions in Landis et al. [2011]. Finally, in a recent working paper, Lamoreaux [2013] examined differences in audit quality for foreign registrants. Some foreign governments prohibit PCAOB inspections of domestic audit firms despite these firms being registered with the SEC. Lamoreaux used this condition to examine differences in audit quality for foreign firms subject to PCAOB inspections versus those that are not. He found that audit firms in countries subject to PCAOB inspections have a greater propensity to issue going concern opinions and report material weaknesses in internal controls.

Researchers have also examined inspection perceptions from both auditors and investors. Daugherty and Tervo [2010] solicited perceptions of the PCAOB inspection process from 146 partners of small (triennially inspected) firms receiving their initial inspection. They found that, in general, smaller respondents reported initial PCAOB inspections resulted in a negative impact on many aspects of their audit practices, while medium and larger firms reported more favorable consequences. They noted that levels of satisfaction with nearly all aspects of PCAOB inspections appeared to increase with firm size and the passage of time.

Similarly, Houston and Stefaniak [2013] surveyed 107 audit partners from large public accounting firms and compared the inspection process to firms' internal quality review (IQR) programs. They found, relative to PCAOB inspections, IQR reviewers were perceived to have a better understanding of firms' audit methodologies, IQRs focused more on whether firms follow their methodology, and IQRs examined more audit areas. In addition, the authors found partners believed PCAOB inspectors were more focused on finding deficiencies than were IQR reviewers, and IQR feedback was more timely and helpful for improving audit quality. Finally, the authors found partners believed only IQRs contribute significantly to improve audit quality.

From an investor perspective, two studies indicated that there were market repercussions for PCAOB-identified deficiencies. First, Offermanns and Peek [2011] analyzed 358 inspection reports issued from 2005-2010, and the 7,642 related client firm-reported observations (i.e., financial and market price information). They found a significant market response to the issuances of the inspection reports, indicating that inspection reports had information content in the marketplace. Moreover, the authors concluded that the market response could be reliably attributed to the information in the inspection report, and that at least part of the market response to the publication of inspection reports could be attributed to revisions in investors' perceptions about accounting information quality.

Second, Robertson and Houston [2010] conducted an experiment using 142 M.B.A. and E.M.B.A. students to proxy as non-professional investors, in order to investigate investors' perceptions of audit opinion credibility following PCAOB inspections. They found an overall increase in perceptions of the credibility of future audit opinions, the degree to which perceptions increased was a function of (1) deficiency severity; (2) firms responding to the reports with concessions rather than denials; and (3) firm size.

In summary, while some research [Glover et al. 2009; Lennox and Pittman 2010; Houston and Stefaniak 2013] questioned the efficacy of the inspection process, several studies have contributed empirical evidence to support the position that the PCAOB inspection process has been beneficial to the auditing profession. Specifically, the literature contends PCAOB-identified deficiencies resulted in market penalties for audit firms [Abbott et al. 2011; Daugherty 2011] and, over time, the inspection process appeared to lead to improved audit quality [Carcello et al. 2011; Gramling et al. 2011; Gunny and Zhang 2012]. However, the degree to which this

improvement was perceived by auditors and investors appears to differ significantly [Robertson and Houston 2010; Offermanns and Peek 2011; Houston and Stefaniak 2013].

### **4.3 Future Research Opportunities**

Though much progress has been made on understanding the effects of the PCAOB inspection process, we believe there are several opportunities for future research. For example, what are the longitudinal effects for annually inspected firms that receive improved or worsened inspection reports than previously received? What are the repercussions for the disclosure of Part II items (i.e., quality control deficiencies not remediated within 12 months)?

While data anonymity is often cited as a hindrance for empirical research into inspection reports, for smaller audit firms with only a few issuer clients, issuer anonymity is diminished to some extent (if not completely). That is, some companies audit only one (e.g., B.F. Borgers CPA PC in 2012) or two (Farmer, Fuqua & Huff, P.C. in 2012) issuer clients. What are the effects of this reduced anonymity? Does it put these audit firms at a disadvantage? Do clients of smaller audit firms observe a larger contagion effect when PCAOB-identified deficiencies are released for their auditors? For those clients that are the only issuer of an audit firm, what are the market reactions to PCAOB-identified deficiencies in an inspection report that implicitly must come from that issuer?

We propose the following research questions:

- RQ11** Is client retention and the acquisition of new clients associated with improvements or falloffs in PCAOB-identified deficiencies?
- RQ12** Do audit firms with unremediated audit deficiencies voluntarily deregister from SEC audits?
- RQ13** Do the clients of audit firms that only have a few public clients experience more severe market repercussions in response to deficiencies identified in the inspection reports of these auditors?

## **5.0 ENFORCEMENT**

The Board uses its investigative authority to identify serious audit deficiencies that pose risks to investors and uses its disciplinary authority to impose sanctions and penalties for those deficiencies [PCAOB 2012a]. If the board believes one or more violations have occurred, review of the registered public audit firm escalates from an inspection to a formal investigation. The PCAOB has several potential sanctions, including: suspending or revoking the accounting firm's PCAOB registration, suspending or barring wrongdoers from further association with any registered accounting firm, limiting the accounting firm's activities, and assessing civil penalties [PCAOB 2012a].

Similar to SEC investigations, the PCAOB maintains some discretion with regard to its investigation findings. If necessary, however, SOX [U.S. House of Representatives 2002] allows the board to share information with the U.S. Department of Justice, certain bank regulators, state attorney generals, and appropriate state authorities. Once a proposed disciplinary action has been settled, the PCAOB publicly discloses the terms of the settlement and any associated sanctions. Figure 4 presents the number of investigations initiated from 2005-2010, as well as the number of settled disciplinary orders from 2005-2012.<sup>13</sup>

[Please insert Figure 4 here]

Finally, the PCAOB discloses the details of disciplinary actions that are currently under adjudication [PCAOB 2013e]. As of August 1, 2013, eleven disciplinary orders were under adjudication.

### **5.1 Enforcement Research**

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<sup>13</sup> Starting in 2011, the PCAOB stopped disclosing in its annual report the number of investigations it initiated during the current year.

To date, a modest amount of studies have examined the impact of PCAOB enforcement actions (presented in Table 5). Gilbertson and Herron [2009] examined all PCAOB enforcement actions through 2008. They identified 20 actions relating to 17 cases against 13 triennially inspected accounting firms, one annually inspected accounting firm, and 23 individuals. They examined various client and auditor characteristics involved in these cases, and found several commonalities. First, they found that disciplined auditors frequently had longer PCAOB reviews and more audit deficiencies identified in their inspection reports. Second, the auditors in these cases tended to audit more SEC registrants. Finally, these audit firms were often smaller, less financially sound, and had only a few audit partners. The authors concluded that their findings are fairly consistent with pre-PCAOB era literature.

[Please insert Table 5 here]

Two recent studies examined the implications of PCAOB enforcement actions against Deloitte. Dee et al. [2010] performed a study of the events surrounding the PCAOB sanctions against Deloitte in late 2007 for its 2003 audit of Ligand Pharmaceuticals. This event marked the first time that the PCAOB levied sanctions against a Big 4 auditor. The authors examined market returns (measured by cumulative abnormal returns over one-, two-, and three-day windows following the announcement of PCAOB sanctions against Deloitte) for clients of Deloitte and the other three Big 4 public accounting firms. While the market returns for the clients of all of the Big 4 accounting firms were negative, the returns for Deloitte clients were significantly more negative than the rest. The authors concluded that the evidence showed that the PCAOB sanctions revealed value-relevant information about Deloitte's reputation or insurance value that was not contained in the other Ligand events.

In order to assess the effects of a Big 4 Part II disclosure, Roybark [2013] performed a case study over the PCAOB's 2011 disclosure of Deloitte's unremediated quality control issues from 2007. Roybark found that, in the 13-month period around the disclosure (April 1, 2011 to April 30, 2012), Deloitte had a greater number of auditor changes and dismissals than other Big 4 accounting firms. Interestingly, Roybark noted Deloitte maintained its market share of audit fees from prior years (though the total audit fees for all Big 4 firms was lower in 2011). Perhaps most importantly, while the majority of Big 4 auditor changes and associated audit fees during this period were retained by other Big 4 audit firms (68 percent), the remaining 32 percent of firms that were retained by non-Big 4 firms may be cause for concern; given that smaller firms might not be as well equipped to deal with the increased risks associated with larger clients.

In an effort to determine the reasons for PCAOB sanctions against auditor EQRs, Messier et al. [2010] expanded upon the EQR findings of Epps and Messier [2007]. They examined 28 sanctions against EQRs from 1993 to 2008 (including two sanctions issued under the PCAOB). Consistent with the findings in Gilbertson and Herron [2009], the authors found that most EQR sanctions were issued to smaller firms with limited partner participation. All of the cases cited a departure from GAAS; and 23 of the 28 cases identified a lack of due professional care on the part of the reviewing partner (generally referring to a lack of professional skepticism). Additional PCAOB-identified deficiencies related to the issuance of incomplete or inaccurate financial information or a lack of conformity with GAAP.

While the extant literature on PCAOB enforcement actions has identified several characteristics of audit firms that have been sanctioned, there has been little research regarding the implications of sanction risk. In a recent paper, Huber [2013] posited that the risk of sanctions by the PCAOB may be passed on to audit clients in the form of higher audit fees.



Huber established the legal and economic bases for PCAOB sanction risk; and called for future research to be performed in this area.

## **5.2 Future Research Opportunities**

Because the information available on PCAOB enforcement actions is relatively sparse, there is a relatively small amount of research in this area. In spite of the lack of information, however, it remains one of the more promising areas for future research opportunities. One direction for future research is reactions to PCAOB sanctions. For example, because enforcement actions are often associated with the audit of a particular issuer, there is a possibility that the market could respond negatively towards that company upon announcement of the sanction. Moreover, if a restatement is the catalyst/cause of an auditor sanction, the possibility exists the market could double penalize an issuer (i.e., the market could penalize the issuer at the time of the initial restatement, and then again when the auditor sanction is made public).

As Huber [2013] asserted, with the prospect of PCAOB sanctions comes an increased risk for auditors. In addition to possible monetary penalties, there is the potential that PCAOB sanctions could expose auditors to additional litigation risks, as confirmed by Houston and Stefaniak [2013]. For auditors that remained in the issuer audit market following the creation of the PCAOB, there is a question of whether these risks are considered in future audit pricing. One issue, though, would be disentangling the effects of increased auditor effort due to the PCAOB auditing standards and the effect of higher risk due to potential PCAOB sanctions. One possibility would be to explore the effects of PCAOB enforcement actions on subsequent audit fees. That is, do audit fees suffer from the negative publicity associated with PCAOB sanctions?

Finally, another potential area of consideration is the impact of different types of enforcement actions. In addition to possible monetary penalties, the PCAOB sanctions can bar an individual from working with a public accounting firm; and even censure or revoke the PCAOB

registration of the accounting firm. While the effect of revocation should be relatively apparent, other enforcement actions represent different possibilities for the future operations of sanctioned firms. How do clients in the public audit market perceive the various sanctions, and are their responses to these sanctions representative of these perceptions?

We propose the following research questions:

- RQ14** What repercussions do clients of sanctioned auditors incur as a result of PCAOB sanctions?
- RQ15** What impact do sanctions have on audit fees in the years subsequent to a sanction?
- RQ16** How do clients perceive and respond to the different types of PCAOB sanctions against an audit firm?

## **6.0 CONCLUSION**

The purpose of this study was to synthesize the body of academic research on the effects of the PCAOB's activities over the past decade. Specifically, we have reviewed research pertaining to the registration of audit firms following the creation of the PCAOB, the pros and cons of PCAOB standard-setting (and its effectiveness relative to prior standards), the actual and perceived benefits of the PCAOB inspection process, and the characteristics of firms subject to PCAOB enforcement actions as well as the subsequent fallout from these sanctions. Accounting practitioners, regulators, and academics have examined these areas at length over the past decade; our review yields several interesting results and implications for future research.

First, the prospect of more stringent oversight by the PCAOB drove many small audit firms out of the issuer audit market [DeFond and Lennox 2011]. The very real possibility of increased compliance and insurance costs, along with the presumption of stricter regulation, caused many firms to abandon issuer audits altogether [Read et al. 2004]. Despite the fact that the PCAOB provides no representations regarding the audit quality of registered audit firms,

the decision to stay registered by some smaller firms (and not audit issuers) is made because of the belief that PCAOB registration signals higher audit quality [Read et al. 2004].

Second, several papers have highlighted the costs and benefits of the PCAOB standard-setting activities (e.g., Smith [2012]; Wang and Zhou [2012]). For example, while some research supports AS3's increased focus on documentation (e.g., Payne and Ramsay [2008]), other research (e.g., Piercey [2011]) highlight unintended, adverse effects on auditor judgments (e.g., more lenient judgments).

Third, there is some contention as to whether the PCAOB inspection process yields any improvement in audit quality [e.g., Lennox and Pittman 2010; Glover et al. 2009]. Many accounting professionals contend that the peer-review and IQR processes provide consistently higher quality audit reviews [Gramling et al. 2010]. Moreover, several studies asserted that the PCAOB inspection process is more focused on identifying deficiencies in audit procedures rather than attempting to improve overall audit quality (e.g., Houston and Stefaniak [2013]). However, research also indicated that, despite providing less relevant detail than peer reviews, PCAOB inspections may still improve actual audit quality due to the potential regulation, litigation, and reputation costs associated with noncompliance [DeFond 2010]. These costs can extend to the marketplace; where investors may penalize firms whose auditors have been singled out by the PCAOB.

Fourth, enforcement actions and subsequent penalties borne by auditors that remained in the issuer audit market appeared to be relatively more severe for smaller audit firms [Gilbertson and Herron 2009]. However, enforcement actions levied against firms of all sizes resulted in negative repercussions to both auditors (e.g., auditor retention) and to audit clients [Dee et al. 2011].

To date, most of the PCAOB research has focused on the inspection and standard-setting processes. While there are certainly additional areas for future research in these areas, we believe there are significant opportunities for research in the registration and enforcement areas. That is, because the entirety of existing registration research has focused on deregistration, there are several possible avenues available to examine the characteristics of auditors who register with the PCAOB (we note a, to-date unexplained, significant increase in registrations in 2009). This area is particularly relevant following the proliferation of PCAOB audit standards in the past five years, which (e.g., AS5) might encourage audit firms to reenter the issuer audit market.

Regarding enforcement, this area of research becomes more accessible every year as the amount of information on enforcement actions by the PCAOB continues to increase. After 10 years, we have an ever-growing dataset of sanctions against public auditors, as well as the underlying conditions that led to these sanctions [PCAOB 2013f].

[Please insert Table 6 here]

Our review addresses several other issues relevant to PCAOB research. Table 6 provides a summary of potential research questions generated within this review. These questions provide opportunities for future researchers that could improve our understanding of the interactions between the PCAOB, public accounting firms, and their clients. The findings from this research can have far-reaching implications for regulators and professionals, as well as academics' perceptions and understanding of issuer auditing as a whole.

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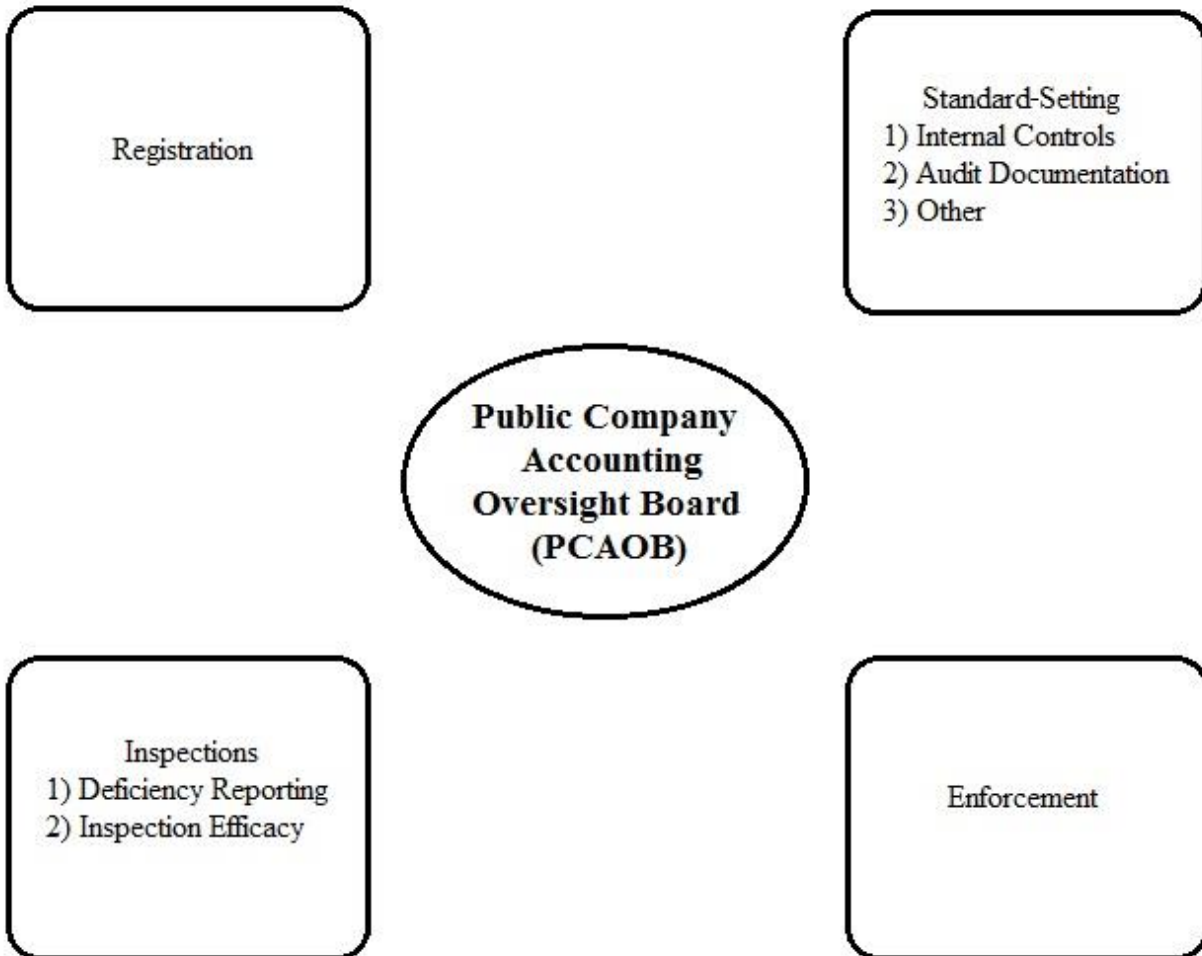
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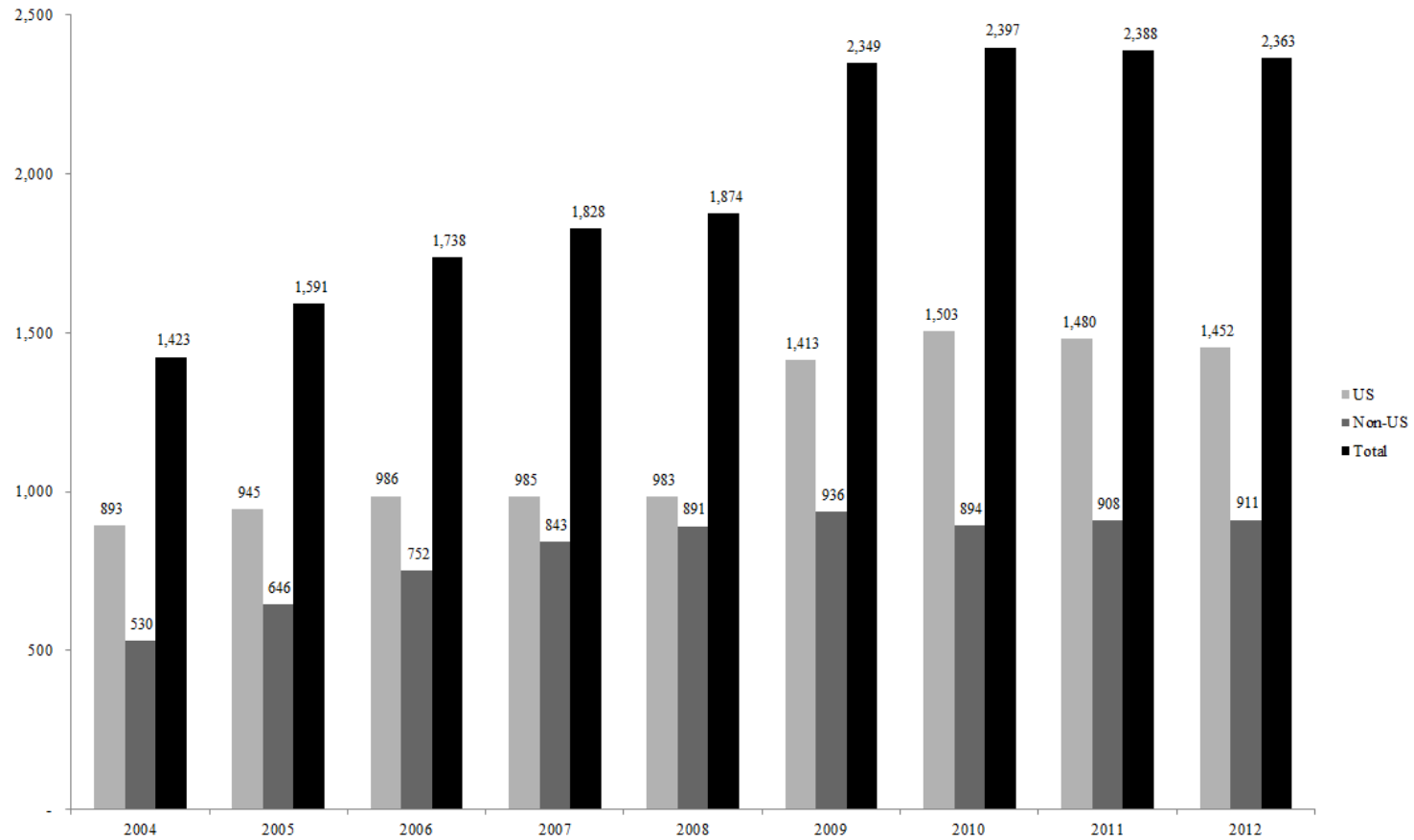


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**Figure 1**  
**Organizing Framework for Analyzing PCAOB Research**

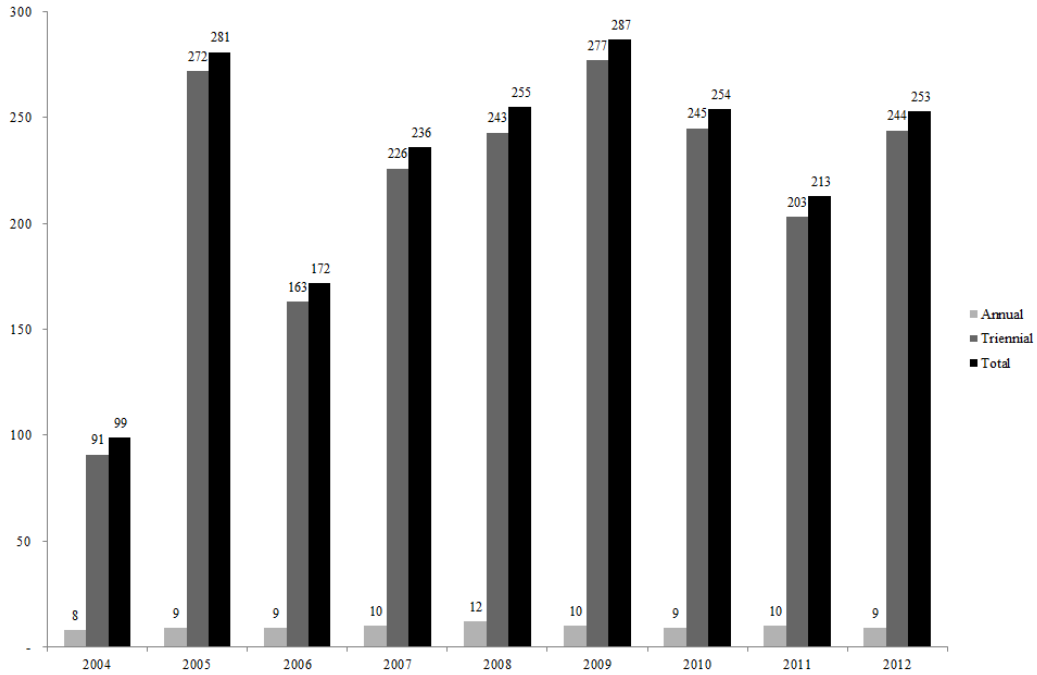


**Figure 2**  
**Audit Firm Registrations with the PCAOB by Year, 2004-2012**  
**US, Non-US, and Total Registrants**

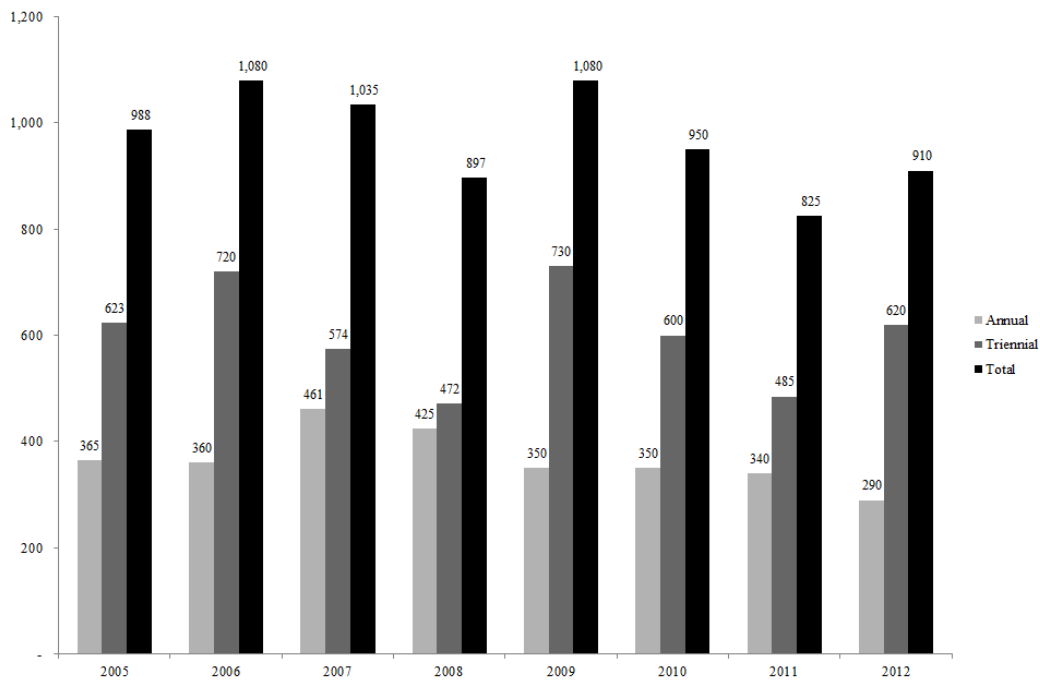


**Figure 3**  
**PCAOB Inspection Statistics**  
**Annually Inspected, Triennially Inspected, and Total Firms**

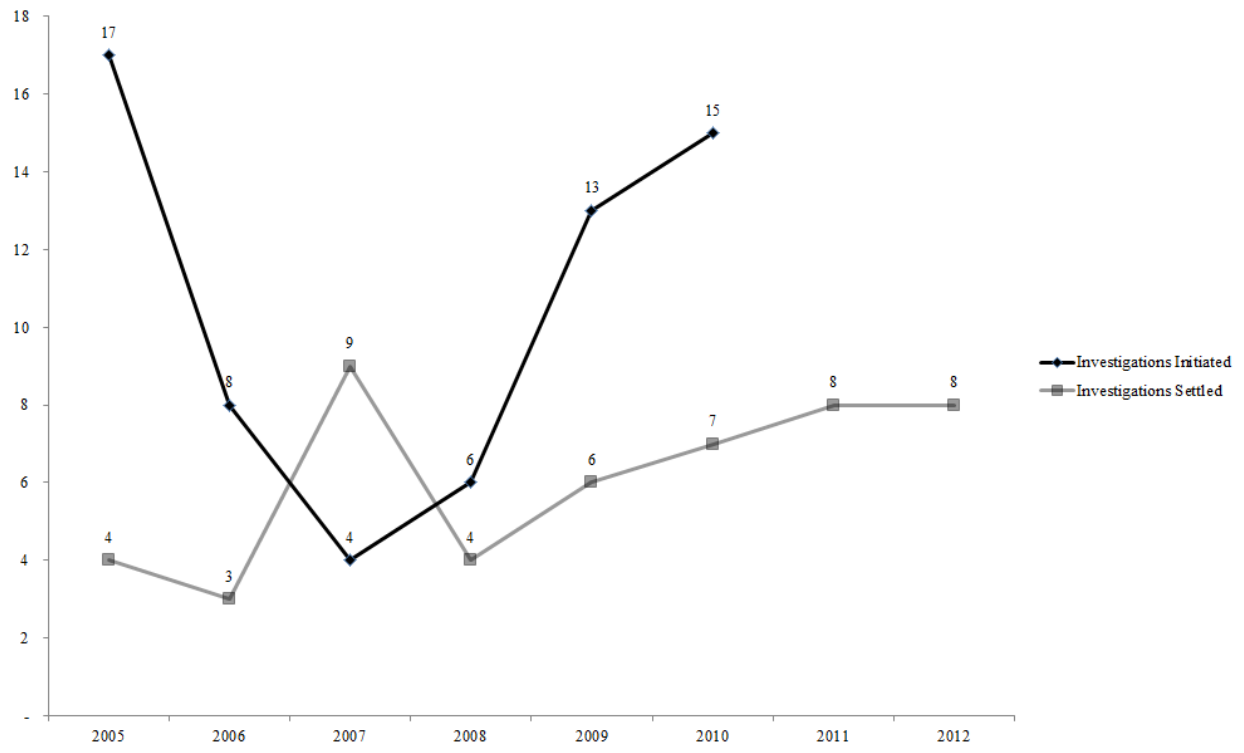
**Panel A: Audit Firms Inspected by the PCAOB by Year, 2004-2012**



**Panel B: Inspections Conducted by the PCAOB by Year, 2005-2012**



**Figure 4**  
**PCAOB Investigations Initiated and Settled by Year, 2005-2012**



**Table 1**

**A Summary of Literature Concerning PCAOB Registration**

<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Read et al. [2004]	A, I	N/A	<ul style="list-style-type: none"> <li>• Auditor resignations</li> </ul>	<ul style="list-style-type: none"> <li>• 775 small auditor resignations from 2000-2003</li> <li>• 991 firms registered with the AICPA public company peer review program</li> </ul>	<ul style="list-style-type: none"> <li>• 47 local and regional audit firms disclosed in Form 8-Ks filed in 2002-2003 that they were ceasing all SEC audits; while only eight such firms that made this disclosure in 2000-2001.</li> <li>• Interviews with partners explained that deregistering was the result of the perception of a more stringent oversight by the PCAOB, increased professional liability insurance costs, and increased scrutiny by the SEC.</li> </ul>
DeFond and Lennox [2011]	A	<ul style="list-style-type: none"> <li>• Peer reviews and PCAOB inspections</li> <li>• Auditor exits from the public audit market</li> </ul>	<ul style="list-style-type: none"> <li>• Auditor exits from the public audit market</li> <li>• Going concern audit opinions</li> </ul>	<ul style="list-style-type: none"> <li>• All small audit firm exits (i.e., a firm that stopped auditing SEC registrants and deregistered with the PCAOB) from 2001 to 2008</li> </ul>	<ul style="list-style-type: none"> <li>• Over 600 auditors with fewer than 100 SEC clients exited the market following SOX.</li> <li>• The deregistration exodus of these firms improved audit quality for issuers, as the exiting auditors were more likely to avoid AICPA peer reviews, fail to comply with PCAOB rules, and/or receive more severe peer review or inspection reports.</li> <li>• Subsequent auditors were also more likely to issue going concern opinions.</li> </ul>

\* A = Archival, C = Commentary, E = Experimental, I = Interview, R = Review, S = Survey

**Table 2**  
**Current and Proposed PCAOB Auditing Standards**

**PANEL A: Current standards adopted by the PCAOB and approved by the SEC**

AS No.	Title
1	References in Auditors' Reports to the Standards of the Public Company Accounting Oversight Board
3	Audit Documentation
4	Reporting on Whether a Previously Reported Material Weakness Continues to Exist
5	An Audit of Internal Control Over Financial Reporting That Is Integrated with An Audit of Financial Statements
6	Evaluating Consistency of Financial Statements
7	Engagement Quality Review
8	Audit Risk
9	Audit Planning
10	Supervision of the Audit Engagement
11	Consideration of Materiality in Planning and Performing an Audit
12	Identifying and Assessing Risks of Material Misstatement
13	The Auditor's Responses to the Risks of Material Misstatement
14	Evaluating Audit Results
15	Audit Evidence
16	Communications with Audit Committees

**PANEL B: Docket activity relating to proposed PCAOB standards**

Docket No.	Title
28	Proposed Auditing Standard Related to Confirmation and Related Amendments to PCAOB Standards
29	Improving Transparency Through Disclosure of Engagement Partner and Certain Other Participants in Audits
31	Concept Release on Possible Rulemaking Approaches to Complement Application of Section 105(c)(6) of the Sarbanes-Oxley Act of 2002
34	Proposed Auditing Standards on the Auditor's Report and the Auditor's Responsibilities Regarding Other Information and Related Amendments
35	Proposed Standards for Attestation Engagements Related to Broker and Dealer Compliance or Exemption Reports Required by the U.S. Securities and Exchange Commission and Related Amendments to PCAOB Standards
36	Proposed Auditing Standard on Auditing Supplemental Information Accompanying Audited Financial Statements and Related Amendments to PCAOB Standards
37	Concept Release on Auditor Independence and Audit Firm Rotation
38	Proposed Auditing Standard on Related Parties and Related Amendments to PCAOB Auditing Standards
40	Proposed Framework for Reorganization of PCAOB Auditing Standards and Related Amendments to PCAOB Auditing Standards and Rules

**Table 3**

**A Summary of Literature Concerning PCAOB Standard-Setting**

**Panel A: AS2 and AS5 - Internal Controls Evaluations and Assessments**

<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Raghunandan and Rama [2006]	A	<ul style="list-style-type: none"> <li>• Pre- v. Post-SOX period</li> <li>• Material Weaknesses in Internal Controls</li> </ul>	<ul style="list-style-type: none"> <li>• Audit Fees</li> </ul>	<ul style="list-style-type: none"> <li>• 660 manufacturing firms that filed SOX 404 reports prior to May 15, 2005</li> </ul>	<ul style="list-style-type: none"> <li>• Audit fees were about 86% higher in the post-SOX period.</li> <li>• However, there was no correlation with the presence of reported material weaknesses and audit fees; or the frequency of occurrence of these material weaknesses.</li> </ul>
Mock et al. [2009]	T	<ul style="list-style-type: none"> <li>• Auditing Standard-setting</li> </ul>	<ul style="list-style-type: none"> <li>• Risk Assessment</li> <li>• Efficiency and Effectiveness of Engagements</li> </ul>	<ul style="list-style-type: none"> <li>• A Big 4 Audit Firm Approach to ICFR assessments</li> </ul>	<ul style="list-style-type: none"> <li>• Real world internal controls over financial reporting (ICFR) assessment approaches were used to develop a theoretical model</li> <li>• Risk assessments based on this model were compared to those set forth in AS5 to evaluate the overall effectiveness relative to the standard.</li> </ul>
Schneider et al. [2009]	R	N/A	N/A	<ul style="list-style-type: none"> <li>• All SOX internal control studies through Fall 2009</li> </ul>	<ul style="list-style-type: none"> <li>• Internal control deficiencies (ICDs) were associated with smaller and riskier companies; and with firms that had weaker boards, audit committees, and financial management.</li> <li>• ICDs tended to have negative reactions in the market and subsequent auditor judgments.</li> </ul>



<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Doogar et al. [2010]	A	<ul style="list-style-type: none"> <li>• Changes in Audit Fees following AS5</li> </ul>	<ul style="list-style-type: none"> <li>• Auditee Fraud Risk</li> <li>• Benchmark Audit Fees for AS2</li> </ul>	<ul style="list-style-type: none"> <li>• 7,662 U.S. firm-year observations from November 2005 through June 2008 with data available in Compustat and Audit Analytics.</li> <li>• Additional criteria restricted the final sample to 3,023 observations.</li> </ul>	<ul style="list-style-type: none"> <li>• Audit fees were lower overall under AS5.</li> <li>• However, this reduction appeared to be dependent on the auditor's assessment of fraud risk, as clients with higher assessed fraud risks did not experience significant decreases in audit fees from AS5.</li> </ul>
Bronson et al. [2011]	A	<ul style="list-style-type: none"> <li>• Timeliness</li> <li>• Reporting strategy</li> <li>• Reliability</li> </ul>	<ul style="list-style-type: none"> <li>• PCAOB regulation (time series – before and after regulation enactment)</li> </ul>	<ul style="list-style-type: none"> <li>• 17,249 firm-year observations from 2000-2005 with earnings announcement data in Compustat and audit report date data in Audit Analytics</li> </ul>	<ul style="list-style-type: none"> <li>• Audit report lags increased on 10 to 15 days on average following the enactment of AS2 and AS3.</li> <li>• PCAOB regulation appeared to be associated with a change in reporting strategy.</li> <li>• Earlier announcements tended to be more relevant, but less reliable; and vice-versa.</li> <li>• Firms that announced earlier in the post-PCAOB regulation years tended to have less reliable preliminary earnings announcements.</li> </ul>
Krishnan et al. [2011]	A	<ul style="list-style-type: none"> <li>• Enactment of AS5</li> <li>• Client Size</li> <li>• Client Complexity</li> </ul>	<ul style="list-style-type: none"> <li>• Audit Fees</li> </ul>	<ul style="list-style-type: none"> <li>• 4,626 Compustat and Audit Analytics firm-year observations for firms that adopted AS5.</li> <li>• Removal of observations with inconsistent or inadequate information resulted in a final sample of 3,909 observations.</li> </ul>	<ul style="list-style-type: none"> <li>• Audit fees decreased following the enactment of PCAOB AS5; with larger decreases for companies with material weaknesses under AS2 receiving subsequent “clean” opinions under AS5.</li> <li>• Audit fee decreases benefitted firms on the basis of firm size.</li> <li>• Audit fee decreases appeared to be more pronounced for more complex firms (on the basis of number of segments and firm mergers).</li> </ul>

Authors and Date	Method*	Main Independent Variables	Main Dependent Variable	Sample	Key Findings
Smith [2012]	E	<ul style="list-style-type: none"> <li>• Bottom-up coverage based standard (AS2) vs. Top-down risk based standard (AS5)</li> <li>• Litigation reform reducing auditor liability</li> </ul>	<ul style="list-style-type: none"> <li>• Perceived Audit Quality</li> <li>• Perceived ICFR Investment</li> <li>• Investment Allocation</li> </ul>	<ul style="list-style-type: none"> <li>• Mock investment portfolios of 101 MBA students</li> </ul>	<ul style="list-style-type: none"> <li>• Investors perceived reduced audit quality following the change in standards.</li> <li>• This perceived change in audit quality was also associated with the perception of a reduction in investment in internal controls.</li> </ul>
Wang and Zhou [2012]	A	<ul style="list-style-type: none"> <li>• Pre- and post-AS5 period</li> </ul>	<ul style="list-style-type: none"> <li>• Audit Fees</li> <li>• Audit Quality</li> </ul>	<ul style="list-style-type: none"> <li>• All firms in Audit Analytics internal control file database as of August 15, 2008; cross-referenced with Compustat financial variables.</li> <li>• The sample was segregated into two control samples (prior to the implementation of AS5) and a testing sample (after the implementation of AS5).</li> </ul>	<ul style="list-style-type: none"> <li>• Overall audit fees decreased following the implementation of AS5.</li> <li>• However, there was no evidence of a corresponding decrease in audit quality (using abnormal accruals and meet or beat analysts' forecasts as measures of audit quality); indicating that AS5 was successful in its objective.</li> </ul>
Bame-Aldred et al. [2013]	R	N/A	N/A	<ul style="list-style-type: none"> <li>• All post-SOX research on external auditor (EA) reliance on the internal audit function (IAF) through Spring 2013</li> </ul>	<ul style="list-style-type: none"> <li>• The EA reliance decision is a complex one.</li> <li>• The high judgment environment dictates that reliance decisions vary from engagement to engagement.</li> <li>• Despite the current relevance of EA reliance on IAF, there has been little research performed regarding how this relationship affects audit quality.</li> </ul>

Authors and Date	Method*	Main Independent Variables	Main Dependent Variable	Sample	Key Findings
Schroeder and Hogan [2013]	A	<ul style="list-style-type: none"> <li>Financial Risk</li> <li>Audit Risk</li> <li>Auditor Business Risk</li> <li>Auditor-Client Misalignment</li> </ul>	<ul style="list-style-type: none"> <li>Changes to Big 4 client portfolios</li> </ul>	<ul style="list-style-type: none"> <li>Auditor data from Audit Analytics and client data from Compustat; 2002-2009 (recession period is identified as 11/15/2007 through 2009)</li> </ul>	<ul style="list-style-type: none"> <li>While clients shifted between Big 4 and non-Big 4 audit firms throughout the sample period, the incidence of shifting from Big to non-Big 4 was lower during the recession/AS5 period.</li> <li>Despite taking on new high-risk clients, Big 4 firms “balanced” their client portfolios by leaving existing high-risk clients; leading to lower overall audit risk levels in the recession/AS5 period.</li> </ul>

\* A = Archival, C = Commentary, E = Experimental, I = Interview, R = Review, S = Survey

**Panel B: AS3 - Audit Documentation and Associated Risk Assessment**

Authors and Date	Method*	Main Independent Variables	Main Dependent Variable	Sample	Key Findings
Payne and Ramsay [2008]	E, S	<ul style="list-style-type: none"> <li>Stage 1: Documentation Method</li> <li>Stage 2: Number of times evidence is examined, Amount of time spent examining evidence</li> </ul>	<ul style="list-style-type: none"> <li>Stage 1: Number of times evidence is examined, Amount of time spent examining evidence</li> <li>Stage 2: Number of errors identified, Pattern recognition, Memory of the evidence</li> </ul>	<ul style="list-style-type: none"> <li>286 surveys of staff- and senior-level auditors from three of the Big 5 public accounting firms.</li> <li>After removing unusable responses from the sample, the final sample size was 211.</li> </ul>	<ul style="list-style-type: none"> <li>In the first stage, auditors reviewed evidence items more frequently when using summary memos, but spent more time examining the evidence when using detailed testing.</li> <li>In the second stage, frequency was associated with better evidence memory; while duration was associated with better error recognition.</li> <li>Both frequency and duration were associated with pattern recognition, though duration was far more significant.</li> <li>The increased duration associated with detailed workpapers appeared to also improve pattern recognition at the reviewer level.</li> </ul>

<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Piercey [2011]	E	<ul style="list-style-type: none"> <li>Documentation Requirements</li> </ul>	<ul style="list-style-type: none"> <li>Audit Risk Assessments</li> </ul>	<ul style="list-style-type: none"> <li>Audit risk assessment task assigned to 138 auditors from two large public accounting firms and 76 accounting students</li> </ul>	<ul style="list-style-type: none"> <li>While increased documentation provided more detail, this detail was generally qualitative justification for the auditor's position.</li> <li>The perceived review risk was lower, but the judgment on the part of the auditor was not any more critical than before.</li> <li>Ironically, this resulted in more lenient overall audit risk assessments.</li> </ul>

\* A = Archival, C = Commentary, E = Experimental, I = Interview, R = Review, S = Survey

#### Panel C: Additional Standard-Setting Literature

<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Epps and Messier [2007]	E, S	N/A	N/A	<ul style="list-style-type: none"> <li>Questionnaires distributed to six international accounting firms (Big 4 and two of the three next largest firms)</li> </ul>	<ul style="list-style-type: none"> <li>Based on a survey of engagement quality (EQ) reviews in the largest audit firms, the study found some significant differences in the areas of reviewer assignment, participation, and the use of practice aids.</li> </ul>
Glover et al. [2009]	C	N/A	N/A	N/A	<ul style="list-style-type: none"> <li>The authors asserted that the Board's ability to achieve its mission was limited by its early choices, together with its incentives, organizational composition, and structure.</li> <li>They also presented high-level recommendations for change for policy makers, regulators, and leaders in the profession to consider in developing improved approaches to audit standard-setting, inspection, and enforcement.</li> </ul>

<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Giacomino and Akers [2012]	S	N/A	N/A	<ul style="list-style-type: none"> <li>• Surveys from 79 Business students at a private Midwestern university</li> </ul>	<ul style="list-style-type: none"> <li>• Student survey responses to proposed changes in the standard auditor's report were quantitatively similar to the responses of accounting professionals and organizations.</li> </ul>
Carcello and Li [2013]	A	<ul style="list-style-type: none"> <li>• Engagement partner signatures on audit reports</li> </ul>	<ul style="list-style-type: none"> <li>• Audit quality</li> <li>• Audit fees</li> </ul>	<ul style="list-style-type: none"> <li>• All Datastream records for UK companies listed on the London Stock Exchange from 2008-2010</li> </ul>	<ul style="list-style-type: none"> <li>• Mandatory disclosure of the engagement partner on the audit report was associated with higher audit fees.</li> <li>• However, such disclosures were also associated with reduced earnings management, more qualified opinions, and higher overall earnings informativeness.</li> </ul>
Lambert et al. [2013]	E, S	<ul style="list-style-type: none"> <li>• Audit Partner Disclosure</li> <li>• Modified Audit Report</li> </ul>	<ul style="list-style-type: none"> <li>• Partner-Based Information Transfer ("contagion effect")</li> </ul>	<ul style="list-style-type: none"> <li>• 380 individuals with investment experience</li> </ul>	<ul style="list-style-type: none"> <li>• Audit partner disclosure was associated with a lower propensity to invest in firms that shared an audit partner with a restating firm (versus firms that only shared a common audit firm).</li> <li>• This reduced propensity to invest was not improved by modified audit report language indicating that audit opinions represented the audit firm as a whole.</li> </ul>

\* A = Archival, C = Commentary, E = Experimental, I = Interview, R = Review, S = Survey

**Table 4**

**A Summary of Literature Concerning PCAOB Inspections**

**Panel A: Deficiency Reporting**

<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Hermanson et al. [2007]	R	N/A	<ul style="list-style-type: none"> <li>• Inspection findings</li> </ul>	<ul style="list-style-type: none"> <li>• 316 PCAOB small firm inspection reports through 2006</li> </ul>	<ul style="list-style-type: none"> <li>• The authors found that 60 percent of the inspected firms had audit deficiencies.</li> <li>• Firms with audit deficiencies were smaller, had a larger number of issuer clients, and were growing more rapidly than firms without deficiencies, suggesting an over extension into the issuer client market by some firms.</li> </ul>
DeFond [2010]	C	N/A	N/A	N/A	<ul style="list-style-type: none"> <li>• The author attempted to place the PCAOB's investigations into the broader auditing and regulatory literature, critiqued what we learn and do not learn from their analysis, and made suggestions for future related research.</li> </ul>
Anantharaman [2012]	A	<ul style="list-style-type: none"> <li>• Peer reviews and PCAOB inspection reports</li> </ul>	<ul style="list-style-type: none"> <li>• Review or Inspection outcome</li> </ul>	<ul style="list-style-type: none"> <li>• 407 firms' last peer review and first PCAOB inspection report</li> </ul>	<ul style="list-style-type: none"> <li>• The author found that firms that chose their own reviewers tended to receive peer review opinions more favorable than their subsequent PCAOB reports.</li> <li>• On the other hand, reviewers with relevant industry knowledge were less likely to give such favorable reviews.</li> <li>• Further, reviewers from the same geographic area were likely to give peer reviews that were more negative than the subsequent PCAOB reports.</li> </ul>

<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Church and Shefchik [2012]	R	N/A	<ul style="list-style-type: none"> <li>• Inspection results</li> </ul>	<ul style="list-style-type: none"> <li>• All 2004-2009 large firm inspection reports</li> </ul>	<ul style="list-style-type: none"> <li>• The authors documented a significant, downward linear trend in the number of deficiencies from 2004 to 2009</li> <li>• They also identified common, recurring audit deficiencies, determined the financial statement accounts most often impacted by audit deficiencies, and isolated the primary emphasis of the financial statement impacted.</li> </ul>
Bishop et al. [2013]	R	N/A	<ul style="list-style-type: none"> <li>• Inspection results</li> </ul>	<ul style="list-style-type: none"> <li>• 175 first-time and 56 second-time inspection reports for international firms issued through February 4, 2012</li> </ul>	<ul style="list-style-type: none"> <li>• The authors found that just over half of the inspection reports identified audit deficiencies, and two-thirds cited quality control defects.</li> <li>• Deficiency firms were smaller, but had more issuer clients than no-deficiency firms, reflecting possible over-extension into the issuer audit market.</li> <li>• They also found no significant differences in the rate of audit deficiencies or quality control defects based on whether the PCAOB acted alone or cooperated with a local regulator in conducting the inspection, or based on the home country's legal tradition.</li> </ul>

\* A = Archival, C = Commentary, E = Experimental, I = Interview, R = Review, S = Survey

**Panel B: Inspection Efficacy**

Authors and Date	Method*	Main Independent Variables	Main Dependent Variable	Sample	Key Findings
Glover et al. [2009]	C	N/A	N/A	N/A	<ul style="list-style-type: none"> <li>• The authors asserted that the Board’s ability to achieve its mission was limited by its early choices, together with its incentives, organizational composition, and structure.</li> <li>• They also presented high-level recommendations for change for policy makers, regulators, and leaders in the profession to consider in developing improved approaches to audit standard-setting, inspection, and enforcement.</li> </ul>
Daugherty and Tervo [2010]	S	N/A	<ul style="list-style-type: none"> <li>• Small firm perceptions of the PCAOB inspection process</li> </ul>	<ul style="list-style-type: none"> <li>• 146 leaders of small registered public accounting firms</li> </ul>	<ul style="list-style-type: none"> <li>• In general, smaller respondents reported initial PCAOB inspections resulted in a negative impact on many aspects of their audit practices, while medium and larger firms reported more favorable consequences.</li> <li>• Collectively, responding firms evaluated their initial inspection team’s performance favorably, but were more critical of other aspects of the inspection process.</li> <li>• Levels of satisfaction with nearly all aspects of PCAOB inspections appeared to increase with firm size and the passage of time.</li> </ul>



<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Lennox and Pittman [2010]	A	<ul style="list-style-type: none"> <li>• Prior peer review report opinion</li> <li>• PCAOB inspections</li> <li>• Change in number of audit clients</li> </ul>	<ul style="list-style-type: none"> <li>• PCAOB inspections</li> <li>• Audit firm exits from the public market</li> <li>• Audit deficiencies identified in PCAOB inspection reports</li> </ul>	<ul style="list-style-type: none"> <li>• [Parts 1 and 2] 545 PCAOB inspection reports through December 31, 2007; 1001 peer review reports between 1997 and 2003</li> <li>• [Part 3] 545 PCAOB inspection reports through December 31, 2007; Auditor change data in Auditor-Trak and Audit Analytics from 2007 to 2008</li> </ul>	<ul style="list-style-type: none"> <li>• PCAOB inspections have not been perceived as influencing audit quality or client retention.</li> <li>• However, the new inspections standards have caused a number of smaller audit firms to exit the public audit market.</li> <li>• Taken as a whole, it was inconclusive whether the PCAOB had an effect on audit quality.</li> </ul>
Carcello et al. [2011]	A	<ul style="list-style-type: none"> <li>• Years subsequent to the first two PCAOB inspections</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in audit quality (abnormal accruals)</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in abnormal accruals between 2004 and 2006 for 4,719 Big 4 auditee-years</li> </ul>	<ul style="list-style-type: none"> <li>• The authors found a significant reduction in abnormal accruals in the year following the first PCAOB inspection</li> <li>• They found a further reduction in abnormal accruals in the year following the second PCAOB inspection.</li> </ul>
Daugherty et al. [2011]	A	<ul style="list-style-type: none"> <li>• Deficiency type and quality control issues</li> </ul>	<ul style="list-style-type: none"> <li>• Voluntary and involuntary client loss</li> </ul>	<ul style="list-style-type: none"> <li>• 748 inspections performed on triennially inspected auditors for reports released from 2005-2008</li> </ul>	<ul style="list-style-type: none"> <li>• The authors found deficiency reports were associated with triennially inspected auditors being involuntarily dismissed by their clients, and companies that dismissed triennially inspected auditors were more likely to hire triennially inspected auditors without deficiency reports.</li> <li>• Also, deficiency reports were associated with triennially inspected auditors voluntarily resigning from their publicly traded clients, and ceasing to be registered with the PCAOB.</li> </ul>

<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Gramling et al. [2011]	A	<ul style="list-style-type: none"> <li>• Inspection deficiencies</li> </ul>	<ul style="list-style-type: none"> <li>• Change in going concern reporting decisions</li> </ul>	<ul style="list-style-type: none"> <li>• 407 triennially inspected firms (11,879 client-year observations) from 2004-2006</li> </ul>	<ul style="list-style-type: none"> <li>• The authors' analysis generally indicated that firms with PCAOB deficiencies were more likely to issue a GC opinion for financially distressed clients subsequent to their PCAOB inspection than prior to their inspection.</li> </ul>
Landis et al. [2011]	A	N/A	<ul style="list-style-type: none"> <li>• Inspection deficiencies by area</li> <li>• Inspection deficiencies by failure type</li> </ul>	<ul style="list-style-type: none"> <li>• 339 inspection reports of triennially inspected firms from 2005 to 2008 that contained audit deficiencies</li> </ul>	<ul style="list-style-type: none"> <li>• A majority of the deficiencies by area were identified as inadequate procedures associated with certain accounts.</li> <li>• Nearly 90 percent of the examined deficiencies by failure type were due to inadequate tests or documentation on the part of the auditor.</li> </ul>
Offermanns and Peek [2011]	A	<ul style="list-style-type: none"> <li>• Inspection deficiencies</li> </ul>	<ul style="list-style-type: none"> <li>• Audit quality</li> </ul>	<ul style="list-style-type: none"> <li>• 224 first-round and 134 second-round inspection reports between January 2005 and March 2010</li> </ul>	<ul style="list-style-type: none"> <li>• The authors found a statistically and economically significant market response to the issuances inspection reports.</li> <li>• The authors also found that at least part of the market response to the publication of PCAOB inspection reports can be attributed to revisions in investors' beliefs about accounting information quality.</li> </ul>
Abbott et al. [2012]	A	<ul style="list-style-type: none"> <li>• Clean, GAAS-Deficient, or GAAP-Deficient PCAOB inspection reports for triennially inspected firms</li> </ul>	<ul style="list-style-type: none"> <li>• Auditor dismissals</li> </ul>	<ul style="list-style-type: none"> <li>• 521 triennially inspected nonforeign accounting firm PCAOB inspection reports filed from Jan. 21, 2005 to Dec. 31, 2007, of which 256 (49.1%) were clean, and 61 (11.7%) were GAAP-deficient</li> </ul>	<ul style="list-style-type: none"> <li>• Results suggested that the clients of GAAP-deficient, triennially inspected auditors were more likely to dismiss these auditors in favor of triennially inspected auditors that were not GAAP-deficient.</li> <li>• The authors also found that greater agency conflicts, the presence of an independent and expert audit committee, and outside blockholdings magnified the effect.</li> </ul>

Authors and Date	Method*	Main Independent Variables	Main Dependent Variable	Sample	Key Findings
Gunny and Zhang [2012]	A	<ul style="list-style-type: none"> <li>• Inspection deficiencies</li> </ul>	<ul style="list-style-type: none"> <li>• Audit quality (abnormal accruals, restatements, and the propensity to issue a going concern opinion)</li> </ul>	<ul style="list-style-type: none"> <li>• 527 triennially inspected firm inspection reports from 2005-2009</li> </ul>	<ul style="list-style-type: none"> <li>• The authors found that PCAOB inspections were associated with lower audit quality when the reports were seriously deficient.</li> <li>• More specifically, they found clients of triennially inspected auditors that receive a deficient or seriously deficient report were associated with significantly higher abnormal current accruals and clients of auditors that received a seriously deficient report were associated with a greater propensity to restate.</li> </ul>
Houston and Stefaniak [2013]	S	N/A	<ul style="list-style-type: none"> <li>• Large firm partner perceptions of PCAOB inspection and Internal Quality Review (IQR) processes</li> </ul>	<ul style="list-style-type: none"> <li>• 107 audit partners from large public accounting firms</li> </ul>	<ul style="list-style-type: none"> <li>• A majority of partners predicted the year of both reviews and perceived that, relative to PCAOB inspections, IQR reviewers had a better understanding of firms' audit methodologies, IQRs focused more on whether firms followed their methodology, and IQRs examined more audit areas.</li> <li>• In addition, partners believed that PCAOB inspectors were more focused on finding deficiencies than were IQR reviewers, and that IQR feedback was more timely and helpful for improving audit quality.</li> <li>• Both reviews were perceived to impact professional reputation; however, partners perceived that PCAOB inspections increased their firms' litigation risk more so than did IQRs.</li> </ul>

<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Lamoreaux [2013]	A	<ul style="list-style-type: none"> <li>• PCAOB inspection exposure</li> </ul>	<ul style="list-style-type: none"> <li>• Going concern opinions</li> <li>• Reports of material weaknesses</li> </ul>	<ul style="list-style-type: none"> <li>• 4,670 firm-year observations from 2001-2010 of foreign firms listed in the United States</li> </ul>	<ul style="list-style-type: none"> <li>• Audit firms in jurisdictions that are subject to the PCAOB inspection process tended to issue more going concern opinions and report more material weaknesses in internal controls.</li> </ul>
Robertson and Houston [2010]	E	<ul style="list-style-type: none"> <li>• Deficiency severity and firm response</li> </ul>	<ul style="list-style-type: none"> <li>• Investor perception of future audit credibility</li> </ul>	<ul style="list-style-type: none"> <li>• 142 M.B.A. and E.M.B.A. students to proxy as non-professional investors</li> </ul>	<ul style="list-style-type: none"> <li>• While the authors found an overall increase in perceptions of the credibility of future audit opinions, the degree to which perceptions increase was a function of three salient characteristics of PCAOB reports: (1) inspections contained high (low) severity deficiencies; (2) firms responded to the reports with concessions (denials); and (3) for small (large) firms.</li> </ul>

\* A = Archival, C = Commentary, E = Experimental, I = Interview, R = Review, S = Survey

**Table 5**

**A Summary of Literature Concerning PCAOB Enforcement Actions**

<b>Authors and Date</b>	<b>Method*</b>	<b>Main Independent Variables</b>	<b>Main Dependent Variable</b>	<b>Sample</b>	<b>Key Findings</b>
Gilbertson and Herron [2009]	R	N/A	N/A	<ul style="list-style-type: none"> <li>• 17 PCAOB enforcement actions issued through 2008</li> </ul>	<ul style="list-style-type: none"> <li>• Firms that were disciplined by the PCAOB had longer reviews and more identified deficiencies.</li> <li>• These firms tended to be smaller and less financially sound audit firms with fewer partners.</li> </ul>
Dee et al. [2011]	A	<ul style="list-style-type: none"> <li>• Deloitte client vs. non-Deloitte client</li> </ul>	<ul style="list-style-type: none"> <li>• Cumulative abnormal returns</li> </ul>	<ul style="list-style-type: none"> <li>• Big 4 auditor clients as of the event date (December 10, 2007 - the announcement of PCAOB sanctions against Deloitte) in Audit Analytics</li> </ul>	<ul style="list-style-type: none"> <li>• All Big 4 clients experienced negative returns during the event window, but that the returns for Deloitte clients were significantly more negative.</li> </ul>
Messier et al. [2010]	A	<ul style="list-style-type: none"> <li>• GAAS/ GAAP Violations identified by the SEC/ PCAOB</li> </ul>	<ul style="list-style-type: none"> <li>• Engagement Quality Reviewer (EQR) Sanctions</li> </ul>	<ul style="list-style-type: none"> <li>• 28 cases of sanctions against EQRs between 1993 and 2008</li> </ul>	<ul style="list-style-type: none"> <li>• Less than 30% of the sanctions in the sample were levied against Big 4/Big 5 accounting firms.</li> <li>• Most of the identified deficiencies related to a lack of due professional care on the part of the reviewer; by and large referring to a lack of professional skepticism.</li> <li>• Additional deficiencies identified related to the issuance of incomplete or inaccurate financial information or a lack of conformity with GAAP.</li> </ul>

Huber [2013]	C	N/A	N/A	N/A	<ul style="list-style-type: none"> <li>• The risk of sanctions by the PCAOB may be passed on to audit clients in the form of higher audit fees.</li> <li>• More research needs to be done on this subject.</li> </ul>
Roybark [2013]	A	N/A	N/A	<ul style="list-style-type: none"> <li>• The disclosure of the nonpublic sections of the PCAOB's 2007 inspection of Deloitte</li> </ul>	<ul style="list-style-type: none"> <li>• Deloitte experienced a greater number of auditor changes and dismissals in the 13-month period surrounding the disclosure.</li> <li>• The auditor switches from Big 4 to non-Big 4 firms during this period may be cause for concern, as the smaller auditors may not be capable of handling the heightened risks associated with handling larger clients.</li> </ul>

\* A = Archival, C = Commentary, E = Experimental, I = Interview, R = Review, S = Survey

**Table 6**  
**Summary of Future Research Questions**

<b>Registration</b>
RQ1: How does PCAOB registration affect external stakeholder perceptions?
RQ2: Do non-public audit clients interpret PCAOB registration to be a signal of higher audit quality?
RQ3: Do audit firms that routinely submit special reports to the PCAOB (i.e., Form 3) have higher/lower audit quality than firms that do not?
RQ4: What led to the sharp increase in PCAOB registrations in 2009?
<b>Standard-Setting</b>
<i>AS2 and AS5 - Internal Controls Evaluations and Assessments</i>
RQ5: Did audit firms that deregistered from SEC audits following the passage of AS2 reregister for SEC audits following the passage of AS5?
<i>AS3 - Audit Documentation and Associated Risk Assessment</i>
RQ6: What is the relationship between increased documentation under AS3 and audit planning decisions?
RQ7: Do clients perceive documentation requirements under AS3 differently than they did prior to AS3?
RQ8: Does the quantification of risks under AS3 result in lower or higher quality assessments of identified risks?
RQ9: Have evolving documentation requirements offset the efficiency gains of internal audit function reliance under AS5?
<i>Additional Standard-Setting Literature</i>
RQ10: Were audit failure rates for local and regional audits lower following the enactment of AS8?
<b>Inspections</b>
RQ11: Is client retention and the acquisition of new clients associated with improvements or falloffs in PCAOB-identified deficiencies?
RQ12: Do audit firms with unremediated audit deficiencies voluntarily deregister from SEC audits?
RQ13: Do the clients of audit firms that only have a few public clients experience more severe market repercussions in response to deficiencies identified in the inspection reports of these auditors?
<b>Enforcement</b>
RQ14: What repercussions do clients of sanctioned auditors incur as a result of PCAOB sanctions?
RQ15: What impact do sanctions have on audit fees in the years subsequent to a sanction?
RQ16: How do clients perceive and respond to the different types of PCAOB sanctions against an audit firm?