

Investor and client responses to the first PCAOB sanction
and Part II disclosure of a Big N Auditor

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ABSTRACT

I examine investor and client responses to the first PCAOB sanction and the first release of “Part II – Issues Related to Quality Controls” of a Big N auditor. I examine the following: the stock market reaction to the Part II disclosure, investors’ perceptions of earnings quality after both events using the earnings response coefficient (ERC), and client dismissals after the sanction. I find that December year-end clients that operate in highly litigated industries or those with auditor tenure greater than three years are more likely to dismiss Deloitte in the post-sanction period. For the sample of U.S. highly litigated clients, the odds of Deloitte being dismissed after the PCAOB sanction are 180% higher than the odds of other Big N auditors being dismissed, after controlling for differences across time. For the sample of U.S. clients with auditor tenure greater than three years, the odds of Deloitte being dismissed after the PCAOB sanction are 107% higher than the odds of other Big N auditors being dismissed, after controlling for differences across time. Unlike Dee et al. (2011) who find that Deloitte clients experienced a negative market reaction to the PCAOB sanction announcement, I find limited evidence that the market reacted to the release of the first Big N Part II PCAOB inspection report. I also do not find strong evidence of a decrease in investors’ perceptions of earnings quality after the PCAOB sanction or after the public release of Part II. I contribute to the literature by providing evidence on whether these first time PCAOB disclosures are informative to clients and investors. This is particularly relevant given the perception that information regarding audit firm quality is currently insufficient, that prior research regarding the content of PCAOB inspection reports has been mixed and mostly generalizable to smaller auditors, and that the Big N audit 98% of the total market capitalization of U.S. based issuers.

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I. Introduction

One of the many changes implemented by the Sarbanes-Oxley Act of 2002 (SOX), was the establishment of the Public Company Accounting Oversight Board (PCAOB), an organization charged with monitoring public accounting firms and their audits of public companies. Section 104(b) of SOX requires registered public accounting firms that regularly provide audit reports for more than 100 issuers to have an annual inspection by the PCAOB; other registered public accounting firms have an inspection every three years.¹ Concerns have been raised by investors, regulatory officials, and accounting professionals regarding the content of the inspection reports and the overall information about audit firms that has been made available to the public under the PCAOB regime (PCAOB Investor Advisory Group 2012; U.S. Treasury 2008; BDO Seidman 2009; Glover 2009). The Treasury Department's Advisory Committee on the Auditing Profession 2008 report noted that, "Currently, there is minimal publicly available information regarding indicators of audit quality at individual auditing firms".

Consistent with these concerns, prior academic research has been mixed regarding the information content of the PCAOB inspection reports, with the results primarily generalizable to firms whose auditors are not inspected annually. Lennox and Pittman (2010) demonstrate that inspection reports are not informative to client auditor choices, for both large and small auditors. On the other hand, Abbott et al. (2008) find that clients of small auditors with GAAP deficiencies identified in their PCAOB inspection report are more likely to switch auditors if their audit committee is fully independent and has at least one financial expert. Additionally, Offermanns and Peek (2011) find a significant stock market reaction to the release of first and second time inspection reports and that the magnitude of the response is higher for reports with GAAP

¹ The smaller firms are subject to triennial inspections if they audit at least one issuer or play a role in auditing at least one issuer.

deficiencies. The authors emphasize that the results particularly apply to non-Big 4 auditors.² The findings in these studies are based on “Part I” of PCAOB inspection reports; the portion of the report that is always made available to the public. PCAOB inspection reports contain two parts: Part I describes individual engagement weaknesses identified during the inspection process, but the identity of the clients are kept anonymous. Part II describes issues related to quality controls. This section is not made public unless the PCAOB determines that the accounting firm has not made sufficient remediation efforts to address the issues identified in Part II.

On December 10, 2007 the PCAOB announced its first sanction against a Big N auditor, imposing a \$1 million civil money penalty on Deloitte and Touche, LLP (Deloitte).³ In addition to paying the fine, Deloitte established a Leadership Oversight Committee for audit partners and directors to address “deployment and supervision issues relating to audit partners and directors about whom quality or other audit performance concerns have been identified” (PCAOB 2007). In an unrelated matter, nearly four years later (on October 17, 2011), new portions of the 2007 Deloitte PCAOB inspection report, “Part II - Issues Related to Quality Controls” (also referred to as “Part II” or “Part II disclosure”), describing criticisms of Deloitte’s system of quality control, were made public because of insufficient remediation efforts. Information on both disclosures is available on the PCAOB website and was publicized in widely circulated newspapers such as *The Wall Street Journal*, *The New York Times*, and *The Washington Post*. In addition, Senator Claire McCaskill, Chairman of the Subcommittee on Contracting Oversight, wrote a letter to Deloitte in response to the Part II disclosure. The Senator asked for further information on the audits Deloitte performs for

² The Big 4 auditors are Deloitte & Touche LLP, Ernst & Young LLP, KPMG LLP, and PricewaterhouseCoopers LLP. They are referred to as “Big N” auditors in the accounting literature and hereafter, I refer to this group as such.

³ In the U.S., Deloitte LLP is the member firm of Deloitte Touche Tohmatsu Limited. Deloitte LLP does not provide services to clients. Auditing services are provided by Deloitte & Touche LLP, which is the name that appears on the PCAOB inspection report and other information released about the firm. However, the firm is collectively referred to as Deloitte and I refer to it as such in the remainder of the paper.

the federal government stating that, “ ... the issues raised in the report raise serious questions regarding the integrity of all audits conducted by Deloitte.”⁴

These two disclosures reveal information about Deloitte’s quality in performing its audits that is not provided in the typical PCAOB inspection report. To assess if these disclosures are informative, I examine the following: the stock market reaction to the Part II disclosure, investors’ perceptions of earnings quality after both events using the earnings response coefficient (ERC), and client dismissals after the sanction.⁵ I contribute to the literature by providing evidence on whether these first time disclosures about a Big N auditor are informative to clients and investors, which is particularly relevant given the perception that information regarding audit firm quality is currently insufficient, that prior research has been mixed and mostly generalizable to smaller auditors, and that the Big N audit 98% of the total market capitalization of U.S. based issuers (PCAOB 2008a). This study is also important because PCAOB inspections, and the output of those inspections, potentially impact auditors’ incentives; and high-quality audits are necessary for well-functioning capital markets (Watts and Zimmerman (1986) as summarized by DeFond 2010).

I find a client response to the PCAOB sanction for firms with two distinct characteristics; those that operate in highly litigated industries or those with auditor tenure greater than three years. December year-end clients with these attributes are more likely to dismiss Deloitte in the post-sanction period. For the sample of U.S. highly litigated clients, the odds of Deloitte being dismissed after the PCOAB sanction are 180% higher than the odds of other Big N auditors being dismissed, after controlling for differences across time.⁶ The probability of Deloitte being dismissed in the post-sanction period is 9.02% if the client operates in highly litigated industries, while the

⁴ The information provided by Deloitte revealed that the federal government had paid them \$62 million from 2006 through part of 2011. The senator’s letter to Deloitte and Deloitte’s response can be found at http://mccaskill.senate.gov/?p=subcommittee_on_contracting_oversight. The request was reported in the WSJ, Rapoport (2011).

⁵ Dee et al. (2011) examine the stock market reaction to the PCAOB sanction and data is not yet available to study client dismissals associated with Part II.

⁶ This result is from the odds ratio which is 2.8. This result could also be stated as follows: for the sample of highly litigated clients, the odds of Deloitte being dismissed after the PCAOB sanction are 2.8 times the odds of other Big N clients being dismissed, after controlling for differences across time.

probability for other Big N auditors is 3.79%. For the sample of U.S. clients with auditor tenure greater than three years, the odds of Deloitte being dismissed after the PCOAB sanction are 107% higher than the odds of other Big N auditors being dismissed, after controlling for differences across time.⁷ The probability of Deloitte being dismissed in the post-Sanction period is 5.03% if the client has engaged Deloitte for more than three years, while the probability for other Big N auditors is 3.39%. Concerns about auditor reputation, the perceived credibility of financial statements and the potential for shareholder litigation are potential factors driving this result. Thus, the release of new quality control information by the PCAOB is associated with an increase in client dismissals, particularly where litigation risk is higher.

Unlike Dee et al. (2011) who find that Deloitte clients experienced a negative market reaction to the PCAOB sanction announcement, I find limited evidence that the market reacted to the release of the first Big N Part II PCAOB inspection report. This is somewhat surprising because the information in the Part II disclosure (quality control issues regarding the auditing process) appears to be more likely to affect the quality of engagements across the firm, compared with the information in the PCAOB sanction (supervision of partners and directors). Although I find limited results in the entire population of U.S. and Non U.S. Deloitte clients, I do find that there is a negative market reaction around the release of Part II for Deloitte China clients. I also find no strong evidence to support a decrease in the perceived earnings quality of Deloitte clients after either the PCAOB sanction or the release of the Part II disclosure.

The remainder of this paper is organized as follows. Section II provides a discussion of the background and hypotheses. Sections III, IV, and V present the research design and findings for the market reaction, earnings response coefficient, and auditor change/client dismissal analyses, respectively. Section VI presents results for the replication of the market reaction analysis of the Dee et al. (2011) study and section VII summarizes and concludes the study.

⁷ This result is from the odds ratio which is 2.07. This result could also be stated as follows: for the sample of clients with tenure greater than three years, the odds of Deloitte being dismissed after the PCAOB sanction are 2.07 times the odds of other Big N auditors being dismissed, after controlling for differences across time.

II. Background and Hypothesis Development

Self-Regulation and Independent Regulation

Prior to the passage of SOX, the public accounting profession was self-regulated through a peer review system. Although concerns existed regarding its effectiveness (Fogarty 1996), prior research has shown that peer review reports predict audit failures (Casterella et al. 2009) and are informative to a clients' choice of auditor by providing information about the quality of audit firms (Hilary and Lennox 2005). Consequently, peer review reports were useful for providing information on actual audit quality and in perceptions of audit quality. One of the many changes implemented by SOX was the establishment of the PCAOB, an organization charged with monitoring public accounting firms and their audits of public companies.⁸ The peer review system is still in effect, however, its inspections are now of non-SEC issuers.

The difference between the two types of inspection reports is that peer review reports provide an overall opinion on the firm's quality control system and disclose quality control weaknesses. However, the PCAOB reports only disclose individual engagement weaknesses; there is no overall quality control opinion and the quality control weaknesses in Part II are only disclosed if they are not remediated to the PCAOB's satisfaction within 12 months of the report date.⁹ The differences between these two reports is important because Lennox and Pittman (2010) find that PCAOB (Part I) inspection reports lack "information value"¹⁰ and are not informative to client audit firm choices. They conclude this is due to the absence of information regarding the quality control of the accounting firm.

⁸ The passage of the Dodd-Frank Act in 2010 also gave the PCAOB authority to inspect the audits of brokers and dealers. There is currently an interim inspection program with a permanent program expected to be established in 2013.

⁹ The accounting firm has the option to request the Securities and Exchange Commission (SEC) to review the decision to release Part II in a nonpublic process. Therefore, there can be a considerable period of time between when quality control criticisms are first identified and when they are made public. Sanctions by the PCAOB against accounting firms are also kept confidential until a final resolution is reached, which can also result in significant delays in releasing timely information to the public.

¹⁰ DeFond (2010) is a response article to Lennox and Pittman (2010) and uses the wording lacks "information value".

PCAOB sanctions and Part II quality control disclosures reveal information about the firm's quality in performing its audits that is not provided in the typical inspection report (Part I). They provide an additional opportunity to assess if PCAOB disclosures are informative to clients and investors. This is important because of concerns raised by investors, regulatory officials and accounting professionals regarding the content of PCAOB inspection reports and the overall information about audit firms that is publicly available under the PCAOB regime (PCAOB Investor Advisory Group 2012; U.S. Treasury 2008; BDO Seidman 2009; Glover et al. 2009). It is also important because prior research has been mixed regarding the information content of PCAOB inspection reports as well as the fact that these are first time disclosures about a Big N firm and the Big N audit 98 percent of the total market capitalization of U.S. based issuers (PCAOB 2008a).

The first PCAOB sanction and Part II quality disclosure of a Big N auditor

On December 10, 2007 the PCAOB announced its first sanction against a Big N auditor, imposing a \$1 million civil money penalty on Deloitte and Touche, LLP (Deloitte).¹¹ The sanction was prompted by Deloitte's failures in the 2003 Ligand Pharmaceuticals Incorporated audit; specifically, the failure to exercise due professional care in performing the audit, to obtain sufficient competent evidential matter to support the audit opinion, and to staff the audit with an engagement partner that had the necessary competence to evaluate the audit evidence (PCAOB 2007).¹² The PCAOB highlighted Deloitte's failure in leaving the engagement partner in charge of the Ligand audit with no additional supervision when concerns had previously been raised at the local, regional, and national office levels regarding this individual's competence, causing some of Deloitte's management to conclude that this partner should be removed from public company

¹¹ Subsequent to this, there have been two other PCAOB sanctions involving Big N auditors. On April 5, 2011 the PCAOB announced a sanction against several firms collectively referred to as "Pricewaterhouse India" (this is a different entity from Pricewaterhouse Coopers, LLP in the U.S.) with a civil money penalty of \$1.5 million; and on February 8, 2012, the PCAOB announced a sanction against Ernst & Young, LLP with a civil money penalty of \$2 million.

¹² A sanction was also imposed on the same date against James L. Fazio, the engagement partner on the Ligand audit. Mr. Fazio was barred from being associated with a public accounting firm (but after two years can file a petition to the PCAOB to remove the restriction).

audits. In addition to paying the fine, Deloitte established a Leadership Oversight Committee for audit partners and directors to address “deployment and supervision issues relating to audit partners and directors about whom quality or other audit performance concerns have been identified” (PCAOB 2007). PCAOB Chairman Mark Olson said “that the board's disciplinary measures are needed to ensure public confidence isn't undermined by firms or individual auditors who fail to meet ‘high standards of quality and competence’ ” (Burns 2007).

In an unrelated matter, nearly four years later (on October 17, 2011), new portions of the 2007 Deloitte PCAOB inspection report, “Part II - Issues Related to Quality Controls”, describing criticisms over Deloitte’s system of quality control were made public because of insufficient remediation efforts by the firm. The 2007 inspection report was originally issued on May 19, 2008; at that time Part II was not publicly revealed. Deloitte had 12 months from that date to remediate the quality control issues and to avoid public disclosure. This was the first time Part II of a PCAOB annual inspection report of a Big N firm was released to the public.¹³ The criticisms involved quality control procedures regarding auditing significant estimates, income tax balances, the issuer’s use of specialists, as well as ineffective use of consultations within the firm, and ineffective monitoring of the internal inspections of its foreign member firms. The PCAOB’s report found that, “these deficiencies may result, in part, from a Firm culture that allows, or tolerates, audit approaches that do not consistently emphasize the need for an appropriate level of critical analysis and collection of objective evidence, and that rely largely on management representations” (PCAOB 2008b). The following was the PCAOB’s statement on the day these Part II disclosures were made public.

"The quality control remediation process is central to the Board's efforts to cause firms to improve the quality of their audits and thereby better protect investors. The Board therefore takes very

¹³ The PCAOB also released two Part II disclosures for PriceWaterhouseCoopers in March of 2013. There have been approximately 100 instances of Part II disclosures, with some firms having multiple disclosures.

seriously the importance of firms making sufficient progress on quality control issues identified in an inspection report in the 12 months following the report. Particularly with the largest firms, which are inspected annually, the Board devotes considerable time and resources to critically evaluating whether the firm did in fact make sufficient progress in that period. The Board can and does make the relevant criticisms public when a firm has failed to do so." ¹⁴

Dee et al. (2011) is the first study to examine any effects associated with the Deloitte PCAOB sanction, finding that Deloitte clients experienced a significant negative stock market reaction when the 2007 sanction was made public. In addition, there was no market reaction by the entire Deloitte client base to event dates related to the specific audit failure prompting the sanction (Ligand audit), leading to the conclusion that the sanction provided new information regarding Deloitte's quality control procedures. In a cross-sectional analysis, they find that financially distressed firms react more negatively to this disclosure, consistent with both a perceived negative reputation effect and a perceived loss of insurance value provided by the Deloitte audit.

I contribute to the literature by further examining investor and client responses to both the sanction and the Part II disclosure in order to provide evidence about whether these first time disclosures are informative. I specifically examine if there is a negative stock market reaction by Deloitte clients to the Part II disclosure announcement and if there is an increase in client dismissals at Deloitte associated with the sanction. Using the earnings response coefficient, I also examine if the sanction and the Part II disclosure are associated with a decrease in perceived earnings quality for clients audited by Deloitte. Below is a summary of the methods tested for each event.

	Market Reaction	ERC	Auditor Changes
Sanction	Dee et al. 2011	X	X
Part II Disclosure	X	X	Data not yet available

¹⁴ PCAOB response available at http://pcaobus.org/News/Releases/Pages/10172011_DeloitteReportStatement.aspx

Prior Research and Hypotheses

“As Wang, Lo and Hui (2003, p. 76) argue ‘Reputation plays an especially important strategic role in service markets because the pre-purchase evaluation of service quality is necessarily vague and incomplete’. Due to their intangibility, the quality of services may be more difficult to evaluate by consumers and thus service firms may be more likely to feel the effects of reputation loss than other types of firms [Fombrun, 1996; Kim and Choi, 2003]” (Walsh 2009). These views are also consistent with remarks made in 2007 by PCAOB founding board member Bill Gradison that “[the PCAOB] prefers giving audit firms a 12-month grace period to quietly fix problems rather than make them public when they happen, since reputation is so important in a field like auditing” (Stuart 2007).

Managers prepare financial statements and engage an auditor to express an opinion as to whether they are a fair representation of the financial position of the company in order to reduce agency conflicts between managers and owners/creditors (Jensen and Meckling 1976; Francis and Wilson 1988). Furthermore, engaging what is considered to be a high quality auditor can add credibility to the company’s financial statements by reducing uncertainty and instilling confidence in the accuracy of the information being reported (Wilson and Grimlund 1990). If however, the auditor’s reputation suffers a loss, it can lead to negative perceptions regarding the quality of the work performed and in turn the perceived reliability of the financial statements of its clients (Wilson and Grimlund 1990), perhaps reducing the value of the audit. In fact, respondents to a 2003 U.S. General Accounting Office (GAO) survey cited quality of services offered and auditor reputation as the top two criteria in choosing an auditor.¹⁵ In addition, Datar and Alles (1999) demonstrate analytically that “auditor reputation facilitates better contracting between the firm and the manager”.

¹⁵ A random sample of 250 companies from the 2003 Fortune 1000 were selected for the survey; all the respondents utilized a Big N auditor.

Unfavorable news about an accounting firm's audit quality could be perceived as a reputation damaging event. Studies examining such disclosures find that the clients of these audit firms exhibit a negative stock market reaction around the time of the event (Firth 1990; Weber et al. 2008; Dee et al. 2011). Negative disclosures regarding the quality of audits performed could also increase the likelihood of litigation against the auditor, particularly larger auditors who are viewed as having "deep pockets" and are often targets of litigation by shareholders if there is an audit failure (Dye 1993; Lennox 1999). If the claims are large enough, they have the potential to affect the firm's survival and the "insurance value for other clients' future claims" (Krishnamurthy et al. 2006).¹⁶ In 1990, Lavenhol and Horwath, the seventh largest accounting firm in the U.S., filed for bankruptcy because of the significant amount of settled and pending litigation. This event removed the possibility of investors recovering claims from the auditor. Studies examining this occurrence find that the clients of this firm, particularly the financially distressed ones, had a negative stock market reaction to the bankruptcy announcement, providing evidence on the insurance value of an audit (Menon and Williams 1994; Baber et al. 1995).

Following the argument that unfavorable news about an accounting firm's audit quality could reduce the perceived reputation of the auditor or the insurance value of audits, I test the following hypothesis stated in alternative form:

Hypothesis 1: Deloitte clients experienced a negative stock market reaction at the public release of Part II - Issues Related to Quality Control.

Prior research has also examined how aspects of the auditor or other auditing related activities affect perceptions of earnings quality or the informativeness of reported earnings, by examining investor reactions to earnings surprises using the earnings response coefficient (ERC).¹⁷ According to Teoh and Wong (1993), "so long as some auditors are perceived to follow policies that cause

¹⁶ The reputation and insurance effects are discussed in detail in Weber et al. (2008) and have been the basis for numerous other studies including Dee et al. (2011), Menon and Williams (1994), and Baber et al. (1995).

¹⁷ See for example Teoh and Wong (1993); Hackenbrack and Hogan (2002); Francis and Ke (2006).

reported earnings to be more informative about value than other auditors, valuation theory predicts that the ERC will be different for different auditors. An auditor's 'quality' can then be defined as the characteristic leading to greater informativeness of reported earnings." Studies utilizing the ERC find that Big N clients have higher ERC's compared with non-Big N clients (Teoh and Wong 1993); clients of auditors sanctioned by the SEC have lower ERC's after the criticism was made public (Moreland 1995); and ERC's are lower after auditor changes involving disagreements (Hackenbrack and Hogan 2002).¹⁸

If the sanction and the Part II disclosure caused investors to downgrade their perceptions of the audit quality provided by Deloitte, it could lead to a lower ERC for securities audited by Deloitte. Therefore I test the following hypotheses stated in alternative form:

Hypothesis 2: Compared to other Big N clients, there is a decrease in perceived earnings quality for Deloitte clients after the PCAOB sanction.

Hypothesis 3: Compared to other Big N clients, there is a decrease in perceived earnings quality for Deloitte clients after the public release of Part II – Issues Related to Quality Control.

If an unfavorable disclosure regarding an accounting firm's audit quality is perceived as damaging the auditor's reputation, then this could also lead to a decrease in market share and/or an increase in client dismissals for the firm because of concerns regarding the perceived credibility of their financial statements (Wilson and Grimlund 1990). For example, "in a 1983 SEC action involving Fox & Co. [a "second tier" audit firm], the Business Week [1984] story ... focused heavily on the effects of a decline in the firm's reputation. U.S. Minerals Exploration Co. recently dismissed Fox and went with Price Waterhouse. 'We were very pleased with Fox's service and fees, but Fox's problems became our problems,' says U.S. Mineral's president. 'Because of the SEC problem we started to get some flak from investment bankers' (Wilson and Grimlund 1990; p 45)".

¹⁸ A higher ERC indicates a higher perceived earnings quality signal.

Studies examining these types of events have found a decrease in market share and an increase in client dismissals after the negative disclosure (Firth 1990; Wilson and Grimlund 1990; Hillary and Lennox 2005; Weber et al. 2008). Furthermore, Dee et al. (2011) find a negative stock market reaction for Deloitte clients at the announcement of the sanction. They come to the conclusion that the sanction provided new information regarding Deloitte's quality control procedures, providing further evidence that the event may have prompted concerns regarding the perceived credibility of financial statements audited by Deloitte.

Therefore I test the following hypothesis stated in alternative form:

Hypothesis 4: Compared to other Big N clients, the likelihood of Deloitte's clients changing auditors is higher after the PCAOB sanction.

Based on the majority consensus of prior research, I hypothesize that investors and clients will react to these two events and therefore, lead to a significant stock market reaction, a change in ERC's, and an increase in client dismissals. It is possible, however, that there will be no observable reaction by investors or clients if they do not feel that the information released by the PCAOB was informative: either because of the content of the disclosures or the considerable lapse in time between when the issues occurred and when they were revealed to the public. There also could be no observable response if investors think the issues identified were isolated incidents not likely to affect the quality of engagements across the entire firm. Additionally, clients may believe that there are no quality issues with the service they receive from their local audit team and that the costs of switching outweigh any benefits. For example, Hackenbrack and Hogan (2002) do not find that ERC's are different pre-to post-auditor switch for companies that provide either an uninformative reason or no reason for the auditor change. Additionally, Lennox and Pittman (2010) conclude that the PCAOB inspection reports are not informative because they do not find an association between the content of the reports and changes in audit firms' market shares. Furthermore, Barton (2005)

document that 95% of Arthur Andersen clients wait to switch auditors until after the firm was indicted. This event was several months after accounting irregularities at Enron were revealed and the disclosure that Andersen had shredded audit evidence related to the Enron engagement. Therefore, it remains an empirical question as to whether there will be any observable reaction by clients and investors.

III. Stock Market Reaction to the public release of Part II

Sample

I start with Audit Analytics and identify all clients of Big N auditors as of the event date (October 17, 2011). I eliminate firms that made earnings announcements or declared dividends within five trading days of the event date to remove confounding events that could impact the abnormal return (Menon and Williams 1994; Dee et al. 2011), and also require that companies have stock returns for the event window(s) and for at least 120 days during the estimation period. I also eliminate firms whose auditor is located outside the U.S., because the Part II disclosure reflects information on auditing issues uncovered at the U.S. Deloitte offices. The PCAOB has jurisdiction (although there are some limitations) to inspect the work of foreign auditors and separately reveal issues with their audit quality. I add them back to the sample as an additional test because Cahan et al. (2009) find that Arthur Andersen's non U.S. clients that were cross-listed in the U.S. experienced a negative stock market reaction to important dates signaling trouble at the firm. I utilize CRSP for daily stock returns and shares outstanding, Compustat for accounting data, Audit Analytics for information on audit fees, opinions and internal control weaknesses and Thomson Reuters for institutional shareholder ownership. Table 1 provides the details of the sample selection.

[Insert Table 1 about here]

Overall Market Reaction

I analyze the stock market reaction surrounding the announcement of the Part II disclosure following Schipper and Thompson (1983), a method frequently used in event studies.^{19 20}

I use the model in equation (1) with an estimation period of November 15, 2010 - November 14, 2011.

¹⁹ See for example Baber et al. (1995); Frischmann et al. (2008); Weber et al. (2008); and Dee et al. (2011). This method includes the event date and a short period after it in the estimation period. These studies also utilize the Sefcik and Thompson (1986) method which I use to examine the association between abnormal returns and company characteristics.

²⁰ For comparative purposes to Dee et al. (2011), I also replicate the analysis of the first event – the PCAOB sanction and perform the market model analysis and Schipper and Thompson analysis. Refer to Section VI for details.

Equation (1)

$$R_{pt} = \alpha + \beta_p R_{mt} + \sum \delta_{pk} \text{Event}_{kt} + \varepsilon_{pt}$$

R_{pt} = equally weighted portfolio return for all clients of Deloitte (or all other Big N clients) on day t

R_{mt} = market return on day t (proxied by CRSP value-weighted index)

Event_{kt} = a dummy variable equal to one for the event window around the event date and zero for all other days in the estimation period

I perform a regression for the sample of Deloitte clients to examine if they experience a significant stock market reaction, and then a second test for the sample of other Big N clients. A negative and significant coefficient on “Event”, the event dummy variable, suggests that investors perceived the Part II disclosure as a negative event. The October 18, 2011 edition of *The Wall Street Journal* reports “wild swings in the past few weeks” and “poor liquidity and market turbulence which has seen the Dow [Dow Jones Industrial Average] rise or fall by 1% or more in 14 of the past 19 trading days” (Lauricella and Zuckerman 2011). Because of these market movements surrounding the event date, I examine event windows for both individual dates and a range of dates to more thoroughly examine the market reaction.

[Insert Tables 2-4 about here]

Tables 2 - 4 report the results of the Schipper and Thompson (1983) regressions.²¹ There is no significant market reaction for any event window examined for the portfolio of either Deloitte clients or other Big N clients in Table 2. This is true for both the samples of U.S. clients (those whose auditor is located inside the U.S.) and U.S. and Non U.S. clients.²² Table 3 reports the same tests with returns winsorized at the 1% and 99% levels. With this modification there is a negative market reaction for both samples of Deloitte clients (U.S. only and U.S. & Non U.S.) on Day (0). This result is significant at the 10% level, and there is no significant market reaction for other Big N clients on this day. Because this result is only present on one day, only at the 10% level and with

²¹ The Breusch-Pagan test was performed and various plots were reviewed to determine if there was a heteroskedasticity problem. No adjustments were deemed necessary.

²² Auditor country is determined based on the country listed in the audit opinions module of Audit Analytics.

winsorized returns only, it is at best, very weak evidence that Deloitte clients experienced a negative market reaction to the public release of Part II.

Table 4 provides the results of an industry sector analysis using the 10 sectors from the Global Industry Classification Standard (GICS); each sector is grouped into its own portfolio and a separate regression performed. There is no evidence of a negative market reaction that is prevalent among the entire Deloitte client base. Only four industries exhibit a negative and significant coefficient across the event windows; with only one sector (Industrials) significant on Day (0), the day that an overall significant negative reaction was previously identified. Similar results are found in the sample of other Big N clients and from untabulated results for an industry sector analysis using the sample of U.S. and Non U.S. clients. Thus far, there is very limited evidence that the market is reacting to the first release of a Big N auditor's Part II report.

I also examine the market reaction by calculating the cumulative abnormal return (CAR) using the standard market model methodology. I use the market model parameters of 250 trading days prior to the Part II disclosure date (excluding the 10 days before the announcement) and the CRSP value-weighted return (with dividends) to substitute for the market return. The abnormal return for firm i on day t (AR_{it}) is the difference between the firm's return and the estimated return; the cumulative abnormal return (CAR) is the sum of the abnormal returns over the event window.

[Insert Tables 5-7 about here]

Tables 5-7 report the results of the market model tests.²³ If the market is reacting to the release of Deloitte's Part II disclosure, then I expect for Deloitte clients to exhibit negative and significant CARs around the event windows and for these CARs to be significantly different (and lower) from the CARs exhibited by the control group of other Big N clients. In Table 5 - Panel A, the mean and median CARs for Deloitte's U.S. clients are negative and significant for Day (0); the median CAR for other Big N clients is also negative and significant for Day 0. However, the two groups (Deloitte

²³ For the test of differences in the mean (t-test) between the two groups, I first perform a variance ratio test to determine if the variances of the two groups are equal and then perform the corresponding appropriate t-test.

and other Big N) are not statistically different from each other; therefore one cannot reject the null hypothesis that they have the same means and medians. In other words, both groups have a negative abnormal return, but there is no evidence that Deloitte clients experienced a more significant market reaction (i.e. a more negative abnormal return) on Day (0), the date of the public release of Part II. On Day (1), both groups have positive CAR's, which again are not significantly different from each other; thus providing no evidence that Deloitte clients experienced a less positive CAR compared to the other Big N group. The change in CAR's from negative to positive appears to be attributable to general market movements. For example, the Dow fell 2.13% on October 17 (Day 0) and rose 1.6% on October 18 (Day 1).²⁴ Furthermore, although Deloitte's U.S. clients experienced a negative and significant market reaction for the event windows involving multiple days, there is no significant difference in the mean and median CARs between the two auditor groups.

Table 6 - Panel A reports the same tests as in Table 5, but with returns winsorized at the 1% and 99% level. The primary difference in the winsorized analysis is that now there are more event windows that exhibit negative and significant CARs within each auditor group. However, the inferences from Table 5 still hold, there is no evidence of a statistically significant difference between the two auditor groups for the sample of U.S. only clients. Thus, although Deloitte's U.S. clients experienced a negative market reaction in the event windows around the public release of Part II, there is no evidence that the market reaction was different from that of other Big N clients. Therefore, there is no indication that the market reaction of Deloitte clients for these days was in response to the release of Part II, which indicates that the market is not reacting to the first Part II Big N disclosure.

Next, I examine the market reaction for the sample that includes both U.S. and Non U.S. clients (Panel B of Tables 5 and 6). The individual t-tests for each auditor group for event windows (-1,+1), (0,+1) and (0,+2) indicate that Deloitte clients experienced a negative and significant market

²⁴ As reported in the 10/18 and 10/19/2011 editions of *The Wall Street Journal* (WSJ), respectively. The Dow also fell 0.6% on October 19 (Day 2), as reported in the 10/20/2011 edition of the WSJ.

reaction, while the group of other Big N clients did not have a significant market reaction (Table 5 - Panel B). The test of differences show that the mean CARs for these two auditor groups were different from each other at the 10% level, thus indicating that Deloitte clients experienced a more negative cumulative abnormal return than other Big N clients. However, this difference does not exist when examining the Median CARs. Panel B of Table 6 with the winsorized returns also reports differences in the Mean CARs between the two auditor groups for event windows of Day (0), (0,+1), and (0,+2). In all of these instances, it is the group of Deloitte clients that experienced the more negative return; however, once again the differences between the two groups no longer exist when examining the Median CARs. Consequently, these tests provide very limited evidence of Deloitte clients experiencing a negative market reaction to the public release of Part II. The most probable reason to expect a Non U.S. Deloitte client to react to unfavorable disclosures regarding auditing practices at Deloitte's U.S. offices is the idea of the accounting firm having an international reputation (Cahan et al. 2009). I next examine which subset of international firms appears to be driving this result.

The differences in the Mean CARS between the two auditor groups reported in Panel B of Tables 5 and 6 appear to be primarily driven by the sample of firms that have an auditor located in China (114 firms, 44 Deloitte Touche Tohmatsu clients [hereafter referred to as "Deloitte China clients"] and 70 other Big N China clients), particularly within the Information Technology sector. In untabulated results, the two groups (Deloitte China clients and other Big N China clients) are significantly different from each other for the event windows of Day (0) and Day (0,+1) at the 5% and 10% levels, respectively (both unwinsorized and winsorized returns). In both event windows the Deloitte China clients experienced a more significant negative market reaction. There is no significant difference in the CARs between the two client groups for the sample of firms audited by foreign Big N auditors not in China. This provides limited evidence of an international reputation effect in response to the release of Part II; however, there have been restrictions on access to information for Chinese cross-listed companies as well as fraud uncovered at some of these

companies.²⁵ These additional factors could explain in part why investors are more sensitive to this new information.

Panel C of Tables 5 and 6 report the results of the sign test (Cowan 1992). If the z-statistic is positive and significant it indicates that the group (Deloitte clients or other Big N clients) had a higher proportion of negative cumulative abnormal returns in the event window compared to the estimation period. Day (0) is the only event window that fits this criteria, but the sample of Other Big N clients also exhibits the same or stronger result. These results also provide no compelling evidence to support the notion of a negative market reaction for Deloitte clients at the release of Part II and thus, again support the prior assessment that there is limited evidence of the market reacting to the first Big N Part II disclosure.

Table 7 reports the results of the market model analysis by industry sector using the 10 sectors from the Global Industry Classification Standard (GICS). I report the analysis for the Day (0) and Day (0,+2) windows for U.S. only clients; however, inferences are the same for the other event windows. For Day (0) there are only two industries that are significantly different between the two auditor groups, and the difference does not exist in both the mean and median CARs. For Day (0,+2) there are also two significant industry differences (Consumer Staples and Utilities), with Deloitte clients experiencing the lower CARs in both industries. However, these two industries comprise only 11% of Deloitte's public client portfolio. Thus, there is no evidence of a pervasive negative market reaction for Deloitte clients at the release of Part II.

Multivariate Analysis

Next, I perform a multivariate analysis using the portfolio weighting approach of Sefcik and Thompson (1986), a method frequently used in event studies to account for cross-correlation in the

²⁵ The SEC requested audit documents for, Longtop Financial Technologies, Ltd, a Chinese cross-listed company, but has not been provided access to this information. These SEC requests were reported in May and September of 2011. Additionally, fraud at Chinese cross-listed companies was reported in a May 2011 article of the *New York Times*.

residuals because of event date clustering. In the Sefcik and Thompson (1986) approach, portfolio returns for Deloitte clients are determined based on company characteristics as follows:

$$R_{jt} = W'_p R_{it}; \quad p = 1, 2, 3, \dots, P; \quad t = 1, 2, 3, \dots, T; \quad i = 1, 2, 3, \dots, N; \quad \text{where:}$$

R_{jt} is a matrix of weighted portfolio returns for T trading days.

R_{it} is the $N \times T$ matrix of daily stock returns.

The weights are determined by the following matrix: $W = (X'X)^{-1}X'$, where X is a matrix composed of N rows and P columns. The number of columns (P) is equal to a column of 1's, plus the number of company characteristics included in the analysis. The first column of the matrix X is composed of 1's, while each of the $P-1$ remaining columns contain individual company values for the characteristics being examined. The number of rows (N) represents the number of companies in the sample.

I estimate (P) portfolio time-series regressions for each of the $P-1$ characteristics and the constant using portfolio weighted least squares as follows:²⁶

Equation (2)

$$\text{Return}_{j,t} = \alpha + \beta_j \text{Return}_{m,t} + \delta_j \text{Event}_t + \varepsilon_{jt}$$

$\text{Return}_{j,t}$ = weighted portfolio return on day t ($t = 1, 2, \dots, 253$) for firm characteristic p ($p = 1, 2, \dots, 11$). Day t represents a trading day from November 15, 2010 to November 14, 2011. Firm characteristic j represents one of the firm-specific characteristics (including the constant);

$\text{Return}_{m,t}$ = market return on day t ($t = 1, 2, \dots, 253$), proxied by the CRSP value-weighted index;

Event_t = an indicator variable for the public release of Part II - Issues Related to Quality Control, equal to one for the event window(s) and 0 otherwise;

²⁶ The estimation period is the same as for the Schipper and Thompson (1983) method – November 15, 2010 - November 14, 2011.

The estimates of δ_j reflect the effect of the p th firm characteristic on the stock market reaction surrounding the event date.

For comparability to the market reaction analysis of the PCAOB sanction (Dee et al. 2011), I use the same firm characteristics expected to be associated with a reputation or insurance value effect.²⁷ They are as follows:

FINC_DISTRESS	=	Zmijewski's (1984) financial distress measure / Sinkey (1987) ²⁸ ;
PREV_RET	=	cumulative raw returns from November 15, 2010 to September 15, 2011;
SIZE	=	natural log of total assets (in million dollars);
BM	=	book value of equity divided by market value of equity;
LEVERAGE	=	ratio of total debt to total assets;
SALE_GROWTH	=	growth rate in sales;
ROA	=	two-digit SIC code median adjusted ROA;
GC	=	equal to one if client received a going-concern explanatory paragraph opinion in the prior year;
TENURE	=	equal to one if auditor tenure is 3 years or less;
INST	=	percentage of institutional ownership, (number of shares owned by institutional investors / total shares outstanding); and
t denotes days.		

Company characteristics that are positively associated with auditor litigation are expected to be associated with a decrease in the insurance value of the audit and are, therefore, expected to be associated with a negative abnormal return. Company size, sales growth, leverage, ROA, financial distress, recent stock returns that are negative, and short auditor tenure are all expected to be

²⁷ Dee et al. (2011) include two non-audit fee metrics based on the findings of Krishnamurthy et al. (2006) that Arthur Andersen clients with large non-audit fee metrics are associated with a negative stock market reaction, presumably because of concerns over auditor independence. The passage of SOX put significant restrictions on the non-audit services that could continue to be provided, therefore, the non-audit fee metrics are likely less relevant in this post-SOX study. For example, Ashbaugh et al. (2003) report that the mean of non-audit fees in a Big N pre-SOX sample was 49.6%, while Dee et al. (2011) report a value of 16.5% for their sample of Big N clients in 2007 and the metrics were not significant in the multivariate analysis. I therefore, choose to exclude these non-audit fee metrics from this study.

²⁸ For financial companies I use a measure of financial distress from Sinkey et al. (1987).

positively associated with auditor litigation (Lys and Watts 1994; Shu 2000; Stice 1991; Menon and Williams 1994; and St. Pierre and Anderson 1984). There has been mixed evidence on the association of qualified opinions and auditor litigation. Shu (2000) find a positive association, while other studies have found it to be either not significantly associated with auditor litigation or sensitive to model specifications (Lys and Watts 1994; Carcello and Palmrose 1994).

However, some of these factors are also associated with lower financial statement quality or incentives to manage earnings. These types of conditions may cause investors' to be more sensitive to disclosures regarding auditor reputation because of concerns over the credibility of the financial statements. These factors include financial distress, high leverage, high sales growth, and short auditor tenure, which are expected to be positively related to incentives or opportunities to manage earnings. Additionally, low ROA and lower book-to-market ratios are expected to be negatively related to incentives/opportunities to manage earnings (Dee et al. 2011). Institutional ownership is included as a measure of corporate governance because companies with less monitoring may have more incentives to manage earnings. Also, institutional owners tend to be more sophisticated and may process information differently.²⁹ Companies with factors that are associated with an incentive to manage earnings are expected to be more sensitive to a decline in auditor reputation and therefore are expected to be associated with a negative abnormal return.

[Insert Table 8 about here]

Table 8 - Panel A reports descriptive statistics for the sample of firms that have all the necessary information to calculate the variables of interest in the Sefcik and Thompson (1986) regressions. Table 8 - Panel B reports the results of the Sefcik and Thompson regressions for the event windows of Day (0) and Day (0,+2) for the sample of Deloitte clients. Although the two auditor groups did not experience a return that was significantly different from each other, Deloitte clients did experience a significantly negative market reaction for these two event windows (Table 5). For the

²⁹ For example, Menon and Williams (2010) find that the negative market reaction to the disclosure of a going-concern opinion is driven by high institutional ownership.

sample of U.S. only clients, this negative abnormal return is more prevalent in companies with higher institutional ownership and those that are less financially distressed. This result is opposite to what was predicted earlier and also contrasts with prior studies (Dee et al. 2011 and Weber et al. 2008). One possible explanation for the institutional ownership finding is that institutional owners are typically more sophisticated investors and therefore, may have been more aware of the release of this report and processed the information differently than the average investor.

For the sample of U.S. and non U.S. clients, this negative abnormal return is more prevalent in companies with lower stock returns in the period before the event. This finding is consistent with the earlier prediction and with the findings of Menon and Williams 1994. Untabulated results for the other Big N clients sample reveal that the negative stock market reaction is more predominant for companies with lower institutional ownership for the event window of Day (0), but only in the full sample of U.S. and Non U.S. clients.

I also examine the association between abnormal returns and two additional factors: highly litigated industries [those with SIC codes of 2833-2836 and 8731-8734 (biotechnology), 3570-3577 and 7370-7374 (computers), 3600-3674 (electronics), and 5200-5961 (retailing) (Francis et al. 1994)] and the presence of at least one internal control material weakness identified in the most recent auditor's report. Investors in companies with these characteristics could be more sensitive to unfavorable news that potentially affects the insurance value of the audit or the reputation of the auditor due to concerns of increased litigation or a greater need for confidence in the financial statements when prior weaknesses have been revealed. For these tests, I use the subset of companies that comply with SOX 404b (the auditor reports on management's assessment of internal controls). In untabulated results, I do not find that the presence of a material weakness in the auditor's 404 report is significant in explaining the negative market reaction for Deloitte clients; however, in the sample of U.S. and Non U.S. clients I find that the negative market reaction is more prevalent for companies in highly litigated industries. I do not find that either of these two characteristics are significant in explaining the returns for other Big N clients.

Additional Tests

The multivariate analysis revealed that financial distress and institutional ownership were significant in explaining the returns for Deloitte's U.S. clients around the release of Part II. Therefore, I re-perform the market model analysis for the U.S. only clients using the sample from the Sefcik and Thompson (1986) analysis. I divide both auditor groups at their own median for two independent tests using observations either below or above the median. In untabulated results, I find no evidence that Deloitte clients experienced a more negative (less positive) reaction than the group of other Big N clients for any of these tests. When there were any significant differences between the two groups it was because the other Big N clients experienced the more negative (less positive) reaction. Next, I perform market model tests with subsamples of NYSE listed firms (55% of the sample), NASDAQ listed firms (38%), and all firms that are not listed on the NYSE (45%). Despite the fact that Deloitte clients in these subsets experienced a negative and significant market reaction around the event windows, there is no statistical difference in the mean or median CAR's of the two auditor groups. Thus, these (untabulated) tests also provide no evidence of Deloitte's U.S. clients experiencing a significant market reaction to the release of Part II.

IV. Perceived Earnings Quality – Earnings Response Coefficient

Sample

Using a sample of quarterly earnings announcements made by Big N clients, I compare ERC's in a pre-period to ERC's in a post-period (for each event separately).³⁰ Following Nelson et al. (2008) the post-period starts with earnings announcements one day after the event date and the pre-period on this same date one year earlier. I exclude firms that switched auditors between the pre-and post-periods. I utilize Compustat for financial information, CRSP for stock prices, Audit Analytics for auditor identity and internal control weaknesses and I/B/E/S for earnings announcements. I perform analyses based on auditor location, using samples of U.S. only clients and then later samples of U.S. and Non U.S. clients. The selection of quarters to test was based on a review of which quarterly announcements were occurring immediately following the event date, refer to information below for further details.

Event 1- Sanction on 12/10/2007

	Pre-Sanction	Post-Sanction
Start date of announcements	12/11/2006	12/11/2007
Test (1)	4Q announcements for November - January fiscal year-ends	
Test (2)	Companies from Test (1) that made earnings announcement within 45 days of the quarter-end date ³¹	

³⁰ Prior research has used both annual and quarterly earnings announcements to examine ERC's for research questions associated with auditor and audit related characteristics. See for example Teoh and Wong (1993); Hackenbrack and Hogan (2002); Krishnan et al. (2005); and Francis and Ke (2006).

³¹ Bronson et al. (2011) report that the mean annual earnings announcement lag (time between the fiscal year-end and the earnings announcement) is between 42 and 47 days. If companies are providing earnings information in excess of this time frame, investors' sensitivities to these earnings announcements may differ compared to ones that are issued on a more timely basis.

Event 2- Public Release of Part II - Issues Related to Quality Controls on 10/17/2011

	Pre-Quality Control Disclosure	Post-Quality Control Disclosure
Start date of announcements	10/18/2010	10/18/2011
Test (1)	3Q announcements for December and January fiscal year-ends and 4Q announcements for September – November fiscal year-ends	
Test (2)	Companies from Test (1) that made earnings announcement within 45 days of the quarter-end date	

Model

I utilize the following OLS regression (consistent with Francis and Ke 2006 and Krishnan et al. 2005) for the sample of earnings announcements in the pre-and post-event windows as described above.

Equation (3)

$$CAR_{it} = \beta_0 + \beta_1 UE_{it} + \beta_2 POST + \beta_3 D_{it} + \beta_4 D_{it} * POST + \beta_5 UE_{it} * D_{it} + \beta_6 UE_{it} * POST + \beta_7 UE_{it} * D_{it} * POST + \beta_8 UE_{it} * MB_{it} + \beta_9 UE_{it} * STDRET_{it} + \beta_{10} UE_{it} * LEVERAGE_{it} + \beta_{11} UE_{it} * LOSS_{it} + \beta_{12} UE_{it} * REST_{it} + \beta_{13} UE_{it} * MVE_{it} + \beta_{14} UE_{it} * ABSUE_{it} + \beta_{15} UE_{it} * EXPERT_{it} + \beta_{16} UE_{it} * 404b_{it} + \beta_{17} UE_{it} * INDUSTRY_{it} + \epsilon_{it}$$

CAR = cumulative abnormal return in the (-1, +1) window surrounding the quarterly earnings announcement;

UE = the firm's quarterly earnings surprise; defined as the actual quarterly earnings per share minus the most recent median consensus analyst forecast, scaled by stock price at the beginning of the quarter;

POST = equal to one if observation is in the post-sanction (post-Part II quality control disclosure) period and 0 otherwise;

D = equal to one if the firm is audited by Deloitte and 0 otherwise;

D*POST = equal to one if Deloitte is the auditor and POST is equal to one and 0 otherwise;

EXPERT	= equal to one if the auditor has the largest market share (audit fees) in the industry (2 digit SIC code) and 0 otherwise;
MB	= the ratio of market value to book value of equity;
STDRET	= the standard deviation of daily stock returns over a 90-day window ending 7 days prior to the earnings announcement date;
LEVERAGE	= the ratio of total debt to total assets;
MVE	= natural log of market value of common equity at the beginning of the quarter (in million dollars);
LOSS	= equal to one if the current quarter's earnings are negative and 0 otherwise;
REST	= equal to one if the special item as a percentage of total assets in the quarter is less than or equal to -5% and 0 otherwise;
ABSUE	= the absolute value of UE;
404b	= equal to one if the firm complies with 404b and 0 otherwise;
INDUSTRY	= set of industry indicatory variables (Fama-French 12);
	<i>i</i> denotes client firm; and
	<i>t</i> denotes year.

The dependent variable is the three day cumulative abnormal return (-1, +1) around the quarterly earnings announcement. It is calculated using the market model parameters of 200 trading days prior to the earnings announcement date (excluding the 5 days before the announcement) and the CRSP value-weighted return to substitute for the market return. Consistent with prior research, I control for other determinants of the ERC: growth opportunities (proxied by the ratio of market value to book value of equity), risk (the standard deviation of daily stock returns and leverage), earnings persistence (loss and restructure), size (natural log of the market value of equity) nonlinearity in the ERC (absolute value of unexpected earnings), if the auditor is an industry expert, if the client complies with SOX 404(b) (Francis and Ke 2006; Krishnan et al. 2005; Singer and You

2011) and industry dummies.³² All continuous variables are winsorized at the 1% and 99% levels and standard errors are clustered by company.

[Insert Table 9 about here]

The model is structured to enable comparisons between the two groups (Deloitte and other Big N firms) in both the pre-and-post time periods, and to compare the groups against themselves across the two time periods. The table below shows the coefficients of interest necessary for these comparisons. The coefficient on β_7 represents the difference between the two groups across the two time periods. This provides a more complete analysis by allowing for any possible differences in ERC's between Deloitte clients and other Big N clients that may exist in the pre-event period. A negative and significant coefficient on β_7 supports H2 (and H3) that compared to other Big N clients, there is a decrease in perceived earnings quality for Deloitte clients after the PCAOB sanction (after the public release of Part II – Issues Related to Quality Control).

β_5	Compare Deloitte to other Big N in the pre-period
$\beta_5 + \beta_7$	Compare Deloitte to other Big N in the post-period
$\beta_6 + \beta_7$	Compare Deloitte to itself pre vs. post period
β_6	Compare other Big N to itself pre vs. post period
β_7	Comparison of Deloitte pre-to-post vs. other Big N pre-to-post

Descriptive Information and Descriptive Statistics

[Insert Table 10 about here]

Table 10 reports descriptive information during the sample period for each of the two events. The two groups (Deloitte and Other Big N) are primarily not different from each other in terms of the control variables. There are a few characteristics in each of the two event periods where the auditor groups have some differences (market-to-book ratio, leverage, restructuring, and the standard deviation of daily stock returns). However, these variables are generally not significant in

³² Consistent with Francis and Ke (2006) and Krishnan et al. (2005) I do not include the main effects of the control variables.

the regression analyses in Tables 11-14. In addition, the two groups are not different from each other in terms of their CARS or their unexpected earnings.

Results from Regression – Equation (3)

[Insert Tables 11-14 about here]

Tables 11-14 report the results of the regression analyses for equation (3). The analysis on each table consists of six columns. The first specification includes all quarterly earnings announcements for the quarters selected for testing. The second specification includes only earnings announcements that occurred within 45 days of the quarter-end date. In the third specification, I also drop all companies from SIC code 6000-6999 because the operating environment and accounting classifications are different for this financial services industry sector. I perform each of these three tests for both auditor location samples: U.S. only clients and U.S. and Non U.S. clients.

Tables 11 and 12 report the results of the analysis for the PCAOB sanction. Table 11 reports results using CARs for a (-1,+1) window as the dependent variable and Table 12 utilizes CARs for a (-2,+2) window. The coefficient on the UE*D variable is not significant in any specification, indicating that there was no difference in the perceived earnings quality of Deloitte clients compared to other Big N clients in the year before the PCAOB sanction was made public. The variable of primary interest is the three-way interaction term of UE*D*POST. It is a difference in differences comparison because it is a comparison across auditor groups (Deloitte and other Big N) and time periods (pre and post-sanction). In Table 11 the coefficient of interest on the three-way interaction term is not significant in any of the six specifications. In Table 12, this variable is negative and significant at the 10% level for the first specification; all earnings announcements for the sample of U.S. only clients. This implies that there was a decrease in the perceived earnings quality for Deloitte clients after the PCAOB sanction, after controlling for differences across time. However, this result does not hold in the second and third specifications, when examining only earnings announcements issued within 45 days of the quarter-end date and also when dropping companies within the financial services sector.

Tables 13 and 14 report the results of the analysis for the release of Part II - Issues Related to Quality Control. As before, Table 13 reports results using CARs for a (-1,+1) window as the dependent variable and Table 14 utilizes CARs for a (-2,+2) window. The coefficient on the UE*D variable is not significant in any specification, indicating that there was no difference in the perceived earnings quality of Deloitte clients compared to other Big N clients in the year before the Part II report was made public. In addition, the coefficient of interest on the three-way interaction term, UE*D*POST, is also not significant in any of the six specifications on either table. This indicates that there was no decrease in the perceived earnings quality for Deloitte clients after the public release of Part II. In general, the control variables across the four tables that are significant are UE*LOSS, UE*REST, UE*ABSUE and UE*404b and they are significant in the expected direction based on prior literature (Francis and Ke 2006; Krishnan et al. 2005; Singer and You 2011).

Additional Tests

First, I replace the UE * 404b variable with the following variable: UE*MW, where MW is defined as a one if the most recent auditor's report (404 b) discloses at least one material weakness. Singer and You (2011) find that investors perceive earnings quality to be higher at companies that comply with 404(b). It is also possible that investors react to earnings surprises differently for companies that disclose internal control material weaknesses. In untabulated results, I find no significant coefficients on the primary variable of interest, UE*D*POST, for any of the specifications tested in the prior tables. Next, I interact the UE variable with a short tenure indicator where tenure is equal to one if the auditor tenure is three years or less (UE*TENURE) to allow for the possibility of auditor tenure affecting the perceived credibility of earnings. Again, I find that there is no statistical significance for the coefficient on the variable of primary interest (UE*D*POST) with the inclusion of this additional variable. I also perform additional tests for the subset of clients operating in highly litigated industries. In the prior tests I generally did not find that there was a decrease in the perceived earnings quality for Deloitte clients after these two

events. I partition the sample based on highly litigated industries³³ because if there are concerns over shareholder litigation, then individuals/organizations with holdings in companies operating in these industries may be more sensitive to financial information audited by an accounting firm whose reputation is perceived less favorably than other peer auditors. In untabulated results, I find no significant coefficients on the primary variable of interest, $UE \cdot D \cdot POST$, for any of the specifications tested in the prior tables for either the sample of companies in highly litigated industries and also for the sample of companies that do not operate in highly litigated industries.

³³ The SIC codes used in the highly litigated specification are the same as the ones in the market reaction test in Section III.

V. Auditor Change/Client Dismissal Analysis – PCAOB Sanction

Sample

I use a sample of Big N clients (as identified by Audit Analytics) with data for the period of 2004 through 2009 to identify Big N auditor switches that occurred from 2005 through 2009 (the test period). I eliminate companies that have nonconsecutive years or that appear only once in the sample because I am not able to accurately assess if an auditor change occurred (refer to Table 15 for details on the sample). I utilize Audit Analytics for audit related information such as audit opinions, and internal control weaknesses; Compustat for financial information; Thomson Reuters for institutional ownership and CRSP for shares outstanding. The sample period is 2005 through 2009; however, I use data for the years 2004 through 2011, for lag and lead information for the control variables. All continuous variables are winsorized at the 1% and 99% levels.

[Insert Table 15 about here]

I begin the analysis with 2005 because it is several years after the demise of Arthur Andersen and the passage of SOX, events which prompted many auditor changes (Landsman et al. 2009; Hogan and Martin 2009). Based on a review of when auditor dismissals occurred and what fiscal years they relate to, the pre-period is defined as January 2005 – March 2008 and the post-period is defined as April 2008 – December 2009.³⁴ These cut-offs allow most companies to appear three times in the pre-period and two times in the post-period.³⁵

I perform analyses with categories based on client fiscal year-ends (all fiscal year-ends or December year-ends only), the nature of the switching decision (all auditor changes or client dismissals only) and auditor location (U.S. only clients or U.S. and Non U.S. clients). The tests with U.S. clients and auditor switches involving only client dismissals are the primary analysis. The

³⁴ I also require that observations with auditor dismissal dates after 12/10/2007 are included in the post-period because the decision to change auditors was made after the sanction was made public. Similarly, I also require that observations with dismissal dates on or before 12/10/2007 are included in the pre-period. Auditor dismissal dates are available for 90% of all auditor changes.

³⁵ Prior research examining auditor switches in connection with a negative reputation event have used five year periods. See for example Weber et al. (2008) and Skinner and Srinivasan (2012).

PCAOB sanction revealed information regarding the quality of audit work performed by Deloitte's U.S. offices. Thus, I expect the strongest result to be in the sample of U.S. clients; however, there is also the idea of the accounting firm having an international reputation. Therefore, I also perform separate analyses with the sample of both U.S. and Non U.S. clients. In addition, I am interested in client perceptions of audit quality. If the sanction is perceived as a negative event, then I would expect an increase in client dismissals, rather than auditor resignations or a decline by the auditor to stand for re-election.³⁶ Lopez and Peters (2011) find that auditor switching is less likely to occur for December year-end clients, thus, I separately analyze this group. In addition, using a sample of only December year-ends holds constant the point in time in the fiscal year during which the PCAOB sanction was made public. I also examine whether the subset of clients operating in highly litigated industries are more likely to change auditors after this negative disclosure. It is possible that clients operating in a litigious environment are more sensitive to unfavorable news about their accounting firm's audit quality.

I utilize the logistic regression model in equation (4) with control variables that reflect various company factors, client misalignment and other elements predicted to influence the auditor switch decision.

Equation (4)

$$\text{SWITCH}_{it} = \beta_0 + \beta_1 D_{it-1} + \beta_2 \text{POST} + \beta_3 D_{it-1} * \text{POST} + \beta_4 \text{GROWTH}_{it-1} + \beta_5 \text{ABSDACC}_{it-1} + \beta_6 \text{INVREC}_{it-1} + \beta_7 \text{ROA}_{it-1} + \beta_8 \text{LOSS}_{it-1} + \beta_9 \text{SIZE}_{it-1} + \beta_{10} \text{M\&A}_{it-1} + \beta_{11} \text{MISMATCH}_{it-1} + \beta_{12} \text{NEG_OPINION}_{it-1} + \beta_{13} \text{ICWEAK}_{it-1} + \beta_{14} \text{TENURE}_{it-1} + \beta_{15} \text{EXPERT}_{it-1} + \beta_{16} \text{INST}_{it-1} + \beta_{17} \text{NEWFINC}_{it+2} + \beta_{18} \text{TREND} + \sum \delta_n \text{INDUSTRY}_n + \varepsilon_{it}$$

SWITCH	= equal to one if a change in the company's audit firm (from year $t-1$ to t) and 0 otherwise;
D	= equal to one if Deloitte is the prior year auditor and 0 otherwise;
POST	= equal to one if fiscal year-end is from 4/30/2008 – 12/31/2009 and 0 otherwise;

³⁶ Lennox and Pittman (2010) also consider client dismissals as their primary test.

D*POST	= equal to one if Deloitte is the prior year auditor and POST is equal to one and 0 otherwise;
GROWTH	= (total assets – beginning total assets) / beginning total assets;
ABSDACC	= absolute value of discretionary total accruals;
INVREC	= (inventory + receivables) / total assets;
ROA	= return on assets, defined as (net income before extraordinary items) / (average total assets);
LOSS	= equal to one if ROA < 0, and 0 otherwise;
SIZE	= natural log of market value of equity (in million dollars);
M&A	= equal to one if the client had a merger or acquisition in the two most recent years, (from SALE footnote = AA in the 2 most recent years);
MISMATCH	= equal to one if the company is mismatched with the auditor, and 0 otherwise, following the methodology in Shu (2000);
NEG_OPINION	= equal to one if the audit opinion is a going-concern, qualified or adverse opinion, and 0 otherwise;
ICWEAK	= equal to one if the auditor's report on internal control over financial reporting discloses at least one material weakness, and 0 otherwise;
TENURE	= equal to one if auditor tenure is three years or less and 0 otherwise;
EXPERT	= equal to one if the auditor has the largest market share (audit fees) in the industry (2 digit SIC code) and 0 otherwise;
INST	= percentage of institutional ownership, (number of shares owned by institutional investors / total shares outstanding);
NEWFINC	= proceeds of long-term debt and common and preferred stock issuances (for two fiscal years after the year of the new auditor's initial engagement), scaled by total assets in the year preceding the auditor change;
TREND	= the difference between the year and 2005;
INDUSTRY	= set of industry indicator variables (Fama-French 12);
	<i>i</i> denotes client firm; and
	<i>t</i> denotes year.

As with the ERC analysis, the model is structured to enable several comparisons between the two auditor groups across time. A positive and significant coefficient on β_3 supports H4, that Deloitte clients are more likely to switch auditors after the PCAOB sanction, after controlling for differences across time.

β_1	Compare Deloitte to other Big N in the pre-period
$\beta_1 + \beta_3$	Compare Deloitte to other Big N in the post-period
$\beta_2 + \beta_3$	Compare Deloitte to itself pre vs. post period
β_2	Compare other Big N to itself pre vs. post period
β_3	Comparison of Deloitte pre-to-post vs. other Big N pre-to-post

Following Landsman et al. (2009) and Lopez and Peters (2011), I control for company factors expected to be associated with the likelihood of switching auditors. Companies with short tenure or negative audit opinions are expected to be more likely to switch auditors (Landsman et al. 2009; Chow and Rice 1982). Clients who are mismatched with their auditor are expected to have a higher likelihood of switching. The mismatch variable is based on Shu (2000). Clients that utilize an industry expert are expected to have less likelihood of switching auditors (Landsman et al. 2009). An audit firm is defined as the national industry specialist if in a particular year the auditor has the largest market share in a two-digit SIC category.

I also control for size, which is expected to have a negative relation with the auditor switch decision because the costs of switching auditors is expected to be greater for larger clients (DeAngelo 1981). The company's growth rate, levels of receivables and accruals, recent mergers and acquisitions, and the presence of weak internal controls are all expected to be positively associated with the likelihood of an auditor switch. More profitable companies are expected to have a negative association with the likelihood of an auditor switch, therefore LOSS is expected to be positively associated and ROA negatively associated with the likelihood of switching auditors (Landsman et al 2009; Lopez and Peters 2011). Prior research has also included measures of agency costs which are expected to influence the auditor switch decision. Following Barton (2005), I

include the percentage of institutional ownership; greater levels of institutional ownership may induce more monitoring of management and lead to switches away from auditors who are perceived as having a less credible reputation. Consistent with DeFond (1992) and Francis and Wilson (1988), I also include a measure for the debt and equity proceeds issued subsequent to the auditor change. A company planning to issue new financing in the near future may have an incentive to switch to an auditor perceived to have a better reputation in order to lend more credibility to their financial information. Lastly, I include a time trend variable and industry dummies (Fama-French 12).

Descriptive Information and Descriptive Statistics

[Insert Tables 16-17 about here]

Table 16 reports descriptive information for auditor market share, auditor changes, and client gains during the sample period. In order to provide a more complete picture of the market share and activity within each Big N firm, I report the auditor information in Table 16 before dropping companies that have missing financial information or that only appear one year in the sample period. The market share for each Big N auditor is consistent over time and is split fairly evenly among the four groups, ranging between 19 and 32%; with Ernst & Young on the higher end and KPMG on the lower end. During the pre-sanction period, Deloitte's auditor changes were comparable or lower to the other Big N firms. However, in the post period, particularly in 2009, Deloitte experienced a slightly higher percentage of the auditor changes and the lowest or second lowest client gains. Table 17 reports the industry portfolio composition of each Big N firm for the sample of clients whose auditors are in the U.S. and have December year-ends.³⁷ Panel A reveals that each Big N firm generally has a similar percentage of clients within each industry in its portfolio. The main exception is the Healthcare industry in which Ernst & Young has 23% of its client portfolio and nearly double or triple the amount of clients as the other three firms. Panel B provides the client dismissals by industry and Panel C provides the auditor resignations/decline to

³⁷ I report information for the subset of December year-end clients in Tables 17 and 18 because this is where I focus most of my later tests.

stand for re-election by industry. Business equipment, Healthcare, Finance, and Other represent approximately 60% of the total client dismissals and 75% of the auditor resignations/decline to stand for re-election during the sample period. The logistic regression includes controls for industries to account for the fact that some industries have slightly higher switch rates. However, the information provided in Table 17 provides no evidence that the industries are unduly balanced among the Big N firms.

[Insert Table 18 about here]

Table 18 provides descriptive statistics for the December year-end clients that dismissed their auditor. I present descriptive statistics for this sample because the focus of my study is to examine if there is an increase in the likelihood of client dismissals after the PCAOB sanction. I present information for December year-end companies because I focus most of my later tests on this subset. Prior literature has established that certain characteristics are more likely to affect the auditor switch decision. Table 18 reveals that the clients who dismissed Deloitte are predominantly the same as the clients who dismissed other Big N auditors in terms of the control variables. The only significant differences are in the categories of auditor tenure and auditor expertise. I perform additional analyses with these traits in a later section.

Results of Logistic Regression

[Insert Tables 19-20 about here]

Tables 19 -22 report the results of the logistic regression analyses. In general, the analysis on each table consists of six columns. The first three columns represent the sample of U.S. only clients; while the last three represent the combined sample of U.S. and Non U.S. clients. The first specification includes all auditor changes (both client dismissals and auditor resignations). The second specification is the primary test, dropping the auditor resignations, and therefore only examining auditor switches that occurred due to client dismissals. In the third specification I drop all companies from SIC code 6000-6999 because the operating environment and accounting classifications are different for this financial services industry sector.

Table 19 reports the results of the analysis on December year-end clients. The coefficient on D is not significant, indicating that the two auditor groups (Deloitte and other Big N) are not statistically different from each other in the pre-sanction period in terms of the likelihood of losing clients. The coefficient on POST is also not significant, indicating that the group of other Big N clients had no change in the likelihood of switching auditors between the pre and post-sanction period. The significance for the combined coefficient of POST and D*POST ranges from the 1% to the 10% levels indicating that compared to the pre-sanction period, Deloitte clients are more likely to change auditors after the PCAOB sanction was made public. The significance for the combined coefficient of D and D*POST is at the 5% and 10% levels indicating that compared to other Big N clients, Deloitte clients are more likely to change auditors in the post-sanction period. This result reflects a comparison across the two auditor groups during one time period (after the PCAOB sanction was made public). However, the coefficient on TREND is negative and significant at the 1% level, indicating that the likelihood of auditor switches among all Big N clients is decreasing during the sample period. Thus, there is also a difference in switching behavior between the two time periods. The variable of primary interest, D*POST, is a difference in differences comparison because it is a comparison across auditor groups (Deloitte and other Big N) and time periods (pre and post-sanction).

This interaction variable has the predicted positive sign, indicating that Deloitte clients are more likely to switch auditors after the sanction, after controlling for differences across time. The results are weaker in the U.S. only sample; the group that is most likely to be affected by the information in the PCAOB sanction report. In the U.S. sample, the D*POST variable is significant at the 10% level; while in the sample of both U.S. and Non U.S. clients, the variable of interest is positive and significant at the 5% level. Untabulated results reveal that the odds ratio for the coefficient of interest is 1.569, 1.534, 1.592, 1.541, 1.675, and 1.772, respectively, for each of the six models presented in Table 19. Recall from the earlier explanation of coefficients that the interaction coefficient, D*POST, represents the difference across both time and auditor groups. Thus, for the

U.S. only sample, the odds of Deloitte clients changing auditors after the PCOAB sanction are 50% higher than the odds of other Big N clients changing auditors, after controlling for differences across time. Untabulated results reveal that the probability of Deloitte being dismissed in the post-sanction period is 4.96%, while the probability of other Big N clients dismissing their auditors in the post-sanction time period is 3.29% (for samples of U.S. only clients).³⁸

The results on the control variables of SIZE, MISMATCH, NEG_OPINION, ICWEAK, NEWFINC, and ABSDACC are in the expected direction. The coefficients on TENURE in the U.S. clients sample are negative and significant at the 1% level. This is opposite of what was predicted, but consistent with the results reported in Lopez and Peters (2011) which is a Big N auditor switching study using data from 2004 – 2007. This result indicates that U.S. clients with short tenure are less likely to switch auditors.

Table 20 reports the results of the analysis for all fiscal year-end clients. The variable of interest, D*POST, is only significant in the sample of both U.S. and Non U.S. clients and only at the 10% level. The results on the control variables are similar to what was reported in Table 19, with a few additional variables now significant and in the same directions as predicted (INVREC, LOSS, SIZE, MISMATCH, NEG_OPINION, ICWEAK and NEWFINC).

[Insert Table 21 about here]

Additional Tests

It is possible that the information in the PCAOB sanction could be perceived differently by subsets of clients with distinct characteristics, even if on average the entire Deloitte client base did not react. I perform additional analyses splitting the sample based on the following characteristics: the client is operating in a highly litigated industry, the client has short auditor tenure, and the client engages an industry expert auditor. I partition the sample based on highly litigated industries because if there are concerns over shareholder litigation, then clients operating in these industries

³⁸ This estimate is for the probability of dismissing your auditor based on a mean value for each of the control variables.

may be more sensitive to utilizing an auditor whose reputation is perceived less favorably than other peer auditors. I use samples of tenure and expertise for two reasons. First, these attributes were significant in explaining the likelihood of auditor switching, particularly within the sample of U.S. clients, and second, there are significant differences in these characteristics between the two auditor groups (Table 18). For each characteristic, I perform two independent regressions, one for companies possessing this trait and then a second analysis for those that do not have this trait.

Table 21 reports results for the subset of clients with December year-ends operating in highly litigated industries.³⁹ The coefficient of interest, D*POST is positive and significant at the 5% level in the sample of U.S. clients and positive and significant at the 1% level in the sample of all clients. Therefore, these results indicate that Deloitte clients operating in highly litigated industries are more likely to switch auditors after the PCAOB sanction. There was no significance on the coefficient of interest for the subset of clients not operating in highly litigated industries; thus, it appears that clients in litigated industries were more sensitive to the news of the PCAOB sanction compared with how the entire Deloitte client base reacted. Untabulated results reveal that the odds ratio for the coefficient of interest is 2.742, 2.807, 2.652, and 3.136, respectively, for each of the four models presented in Table 21. Thus, for the U.S. only sample, the odds of Deloitte clients changing auditors after the PCOAB sanction are 170% and 180% higher than the odds of other Big N clients changing auditors, after controlling for differences across time (significant at the 5% level). Untabulated results reveal that the probability of Deloitte being dismissed in the post-sanction period is 9.02% if the client operates in highly litigated industries, while the probability for other Big N auditors is 3.79% (sample of U.S. clients).⁴⁰

There are some differences in the variables used in these regressions versus those reported in Tables 19 and 20. First, industry controls were not used because the SIC codes maintained for this

³⁹ The SIC codes used in the highly litigated specification are the same as the ones in the market reaction test in Section III.

⁴⁰ Untabulated results reveal that there is no difference in means between the two auditor groups (Deloitte and other Big N) for companies that dismiss their auditors and are in highly litigated industries.

sample of clients is a very small subset. Second, eight other control variables were not used in this regression (INVREC, ROA, LOSS, MISMATCH, NEG_OPINION, EXPERT INST, and NEWFINC) because the sample sizes in these tests are considerably smaller than those used in the full samples reported in Tables 19 and 20. In logistic regression models there is a general guideline that there should be ten outcomes of each type (auditor switches or no auditor switches) for each predictor (each independent variable), otherwise coefficient estimates could be biased and standard errors not as precise (Agresti p. 138). Due to the number of auditor changes (122 in the smallest sample) I can only run an accurate analysis with eleven independent variables (the intercept adds the twelfth variable). Therefore, I perform a stepwise regression and eliminate the variables that this procedure determines are least significant in explaining auditor switches. I also perform a factor analysis and the results for the coefficient of interest are the same sign and significance; thus, these results are robust to alternate specifications and the inclusion of fewer variables.

Untabulated results for the sample of all fiscal year-end highly litigated clients reveal weaker results in both auditor location groups. For the subset of client dismissals (equivalent to specification 2 and 4 in Table 21), the coefficient of interest is positive and significant, but only at the 10% level for the sample of U.S. clients and at the 5% level for the sample of U.S. and Non U.S. clients.

[Insert Table 22 about here]

The next analysis partitions the sample based on auditor tenure. The prior analyses indicated that U.S. clients with short tenure are less likely to switch auditors; stated another way, clients with tenure greater than three years are the group that is more likely to change auditors. This makes sense because switching auditors frequently can be costly in terms of the loss of information and client specific knowledge when a new auditor is engaged. For this group of clients with tenure greater than three years, the coefficient of interest, D*POST is positive and significant at the 5% level in the sample of U.S. clients with December year-ends, and positive and significant at the 1% and 5% levels in the sample of all clients. These results indicate that clients who have engaged

Deloitte for more than three years are more likely to switch auditors after the PCAOB sanction. Untabulated odds ratios reveal that the odds of Deloitte being dismissed after the PCOAB sanction are 107% higher than the odds of other Big N auditors being dismissed, after controlling for differences across time (significant at the 5% level; sample of U.S. clients). Furthermore, the probability of Deloitte being dismissed in the post-sanction period is 5.3% if the client has engaged Deloitte greater than three years, while the probability for other Big N auditors is 3.39% (sample of U.S. clients). There was no significance on the coefficient of interest ($D*POST$) for the subset of clients with short tenure (i.e. tenure of three years or less); thus, it appears that clients in certain tenure groups were more sensitive to the news of the PCAOB sanction compared with how the entire Deloitte client base reacted. Although prior research finds support for the idea that investors view long auditor tenure as enhancing earnings quality (Ghosh and Moon 2005), it is possible that this could be counteracted when unfavorable news regarding the quality of the accounting firm is revealed. In addition, concerns have been expressed from time to time that long tenure may compromise auditor independence and objectivity (PCAOB 2011). Upon further analysis, 38% of the Deloitte post-sanction client dismissals were by clients with tenure of more than ten years. From time to time, clients do put the audit up for competitive bids, so it is possible that this new information had some influence on clients if they were already contemplating changing their auditor. Untabulated results reveal that performing the same tests with the entire sample of all fiscal year-end clients produces significant results, but they are weaker. The coefficient of interest, $D*POST$, is significant at the 10% and 5% level for the tests of primary interests (only auditor changes involving client dismissals).

The last analysis partitions the sample based on the auditor expertise variable. The coefficient of interest, $D*POST$ is not significant in specifications with either all industry experts or no industry experts.

Additional Sensitivity Tests

Auditor changes involving reportable events or disagreements with the auditor may have more to do with increased risks in the audit engagement rather than possible concerns about auditor reputation. Reportable events involve the disclosure if in the two most recent fiscal years the auditor had advised the client of any of the following: internal controls necessary to develop reliable financial statements do not exist; the auditor was unwilling to rely on management's representations; the scope of the audit needs to be significantly expanded; or information has become available that materially affects the fairness or reliability of a previously issued audit report or financial statements. Therefore, I perform the same analyses as reported in Tables 19-22 with the additional constraint of removing any auditor changes involving disagreements or reportable events.⁴¹ I discuss only the findings for the sample of primary interest: U.S. clients with auditor changes only involving client dismissals (equivalent to specification 2 in Tables 19-22). Untabulated results for the samples of December year-end clients in highly litigated industries and December year-end clients with tenure greater than three years are unchanged from the results found in Tables 21 and 22.⁴² However, the interaction coefficient, D*POST, is not significant in the samples of all fiscal year-end clients or December year-end clients (equivalent to Tables 19 and 20). Recall that in Table 19, this variable was significant at the 10% level for the December year-end clients.

⁴¹ For the sample of U.S clients, there are 20 auditor changes involving disagreements (19 of which also have a reportable event) and 286 auditor changes involving reportable events. This represents a total of 287 auditor changes involving either condition; 212 of these auditor switches were for client dismissals and 75 were related to auditor resignations or the auditors' decision not to stand for re-election.

⁴² Because of the smaller sample size a reduction in the number of independent variables is necessary. For the tenure test, I use Fama-French 5 rather than Fama-French 12 to control for industries. For the litigated test, I perform a stepwise regression to determine the most significant control variables to include. These variables are SIZE, ABSDACC, and GROWTH. I also include TREND, D, POST, and D*POST.

VI. Market Reaction Replication – Dee et al. (2011)

In this section I replicate the market model analysis and Schipper and Thompson (1983) analysis found in Dee et al. (2011) (hereafter referred to as “DLZ”). This study performed a market reaction analysis to the public release of the PCAOB sanction which occurred on December 10, 2007. I utilize the same data sources and procedures outlined previously in Section III. DLZ does not identify whether their sample includes U.S. only clients or all clients (U.S. and Non U.S.); thus, I perform analyses with both categories. DLZ reports results for three event windows: Day (0), Day (0,+1) and Day (0,+2).

[Insert Tables 23-24 about here]

Table 23 reports the results of the market model analysis. Panels A, B, and C provide results for each of the event windows. The first row contains the results presented in DLZ; the second row is for the sample of U.S. only clients and the third row is for the sample of U.S. and Non U.S. clients. The results for the sample of U.S. clients are generally the closest to the results reported in DLZ, thus I focus most of my discussion and comparison to this group. The mean and median CARs in this group (U.S. only clients) always exhibit the same sign as those reported in DLZ and the significance of the median CARs is almost always at the same level as that reported in DLZ (refer to the Wilcoxon signed rank test columns). The significance for Deloitte mean CARs is always one level below that reported in DLZ (refer to Mean t-test column). I find that Deloitte clients mean CARs were significantly different from zero at the 5% level while DLZ reports significance at the 1% level. This is probably due to the fact that I did not obtain the exact same sample size and there is some difference between the two mean CARs (mine and DLZ), although my Deloitte CARs are the same sign and also more negative than the other Big N CARs which are both consistent with DLZ.

In terms of whether the two auditor groups have different mean and median CARs from each other, the most similar results I achieve are for the Day (0) event window. DLZ reports that the two

groups have both mean and median CARS that are different from each other at the 1% significance level. In my U.S. only clients sample, I find the same level of statistical significance for the median CARS, but one lower level of significance (i.e. 5%) for the mean CARS. For the test of differences in means (t-tests) between the two groups I report two sets of results: the first assumes an equal variance between the two groups and the second assumes an unequal variance. DLZ does not indicate if they performed a variance ratio test or whether the two groups had equal or unequal variances, therefore I report both sets of results. I do not find the same levels of significance between the auditor groups for the event windows of Day (0,+1) or Day (0,+2). This is somewhat surprising since I did find a similar result to DLZ for the Day (0) window and I utilize the same dataset (with the same companies) to test all three event windows; I am just using some additional days to test these other two event windows. These differences are probably due to the fact that I did not obtain the exact same sample size (same companies) or the same mean CAR as DLZ. Below is a summary on the differences in my sample size versus DLZ.

	Deloitte Clients	Over/ (Under)		Other Big N Clients	Over/ (Under)		Total Difference
U.S. only clients	707	(144)		2,363	(259)		(403)
U.S. & Non U.S. Clients	707	(6)		2,363	157		151

DLZ provides very limited information regarding how they put together their sample. The only thing I know is that 120 days of stock prices were required and that Audit Analytics was used to determine who the auditor was; a GICS industry sector analysis is performed but no results are displayed, thus, I cannot do an industry sample size comparison. There are many small decisions that are necessary when putting a dataset together and it is likely that these choices affected the final company composition in my sample versus that found in DLZ. For example, there are several options that could be used in determining who the auditor was. Someone could use the Audit

Opinions module of Audit Analytics as their starting point, while another researcher could use the Audit Fees module of Audit Analytics as their starting point. In addition, one person could determine auditor identity by using the closest audit opinion issued before the event date and make adjustments for any subsequent auditor changes by using the Auditor Changes module of Audit Analytics. On the other hand, someone else could use the most recent audit opinion that includes the event date. Differences in datasets could also arise from decisions made related to daily stock price data. For example, one researcher might decide that if a company has two classes of stock that they will only use prices from the one that has the highest trading volume because the other class is often thinly traded and held by a small number of owners such as family and employees. However, another researcher could decide to perform their analysis with both classes of stock. Some individuals may choose to replace daily stock data that has either missing values or negative prices with the most recent prior day valid stock price, while others could perhaps follow some other approach. These are just some examples of differences that can arise in creating a dataset. There is not necessarily one right approach; there can be many different decisions that occur that are reasonable but different between different researchers. I created several other alternative datasets from some of these choices previously mentioned, however, I still do not ever obtain a significant difference in mean CARs between the two auditor groups for the event windows of Day (0,+1) or Day (0,+2) and no difference in median CARs for Day (0,+2). The only new difference I find is that in three of these other alternative datasets the median CARs between the two groups are significantly different from each other at the 10% level, whereas in the results reported in Table 24 I did not find a significant difference.

Table 24 reports the results of the Schipper and Thompson (1983) analysis. DLZ report t-statistics rather than p-values for this analysis, thus I report my results with this measure as well. DLZ does not mention the use of robust standard errors; however, I report two sets of t-statistics for the coefficient of interest (Event). The first is without robust standard errors and the second t-statistic is with robust standard errors; the results with robust standard errors for the sample of U.S.

only clients are the most similar to the DLZ study. For the portfolio of other Big N clients, DLZ do not report a significant coefficient on the Event variable for any of the three event windows; this is consistent with my results for both the robust standard errors and the non-robust standard errors. For the portfolio of Deloitte clients, DLZ report a negative and significant coefficient at the 5% level on Day (0). I find a similar result with the robust standard errors with a significance level of 1%. For Day (0,+1), DLZ do not find a significant coefficient on the Event variable. This is consistent with my result for the non-robust standard errors; however, with the robust standard errors the coefficient on the Event variable is significant at the 10% level. For Day (0,+2), DLZ report a negative and significant coefficient at the 5% level. This is consistent with my result for the robust standard errors; however, with the non-robust standard errors the coefficient on the Event variable is no longer significant. In summary, I obtain similar results to DLZ with the use of robust standard errors.

VII. Conclusion

This study is not attempting to make any judgments on whether the PCAOB inspection process itself is valuable, but rather whether infrequent and new types of information related to an accounting firm's quality control is informative to clients and investors. I examine if there is an increase in client dismissals at Deloitte after the PCAOB sanction is made public and whether there is a stock market reaction to the public release of new portions of the 2007 Deloitte PCAOB inspection report ("Part II").

I find a client response to the PCAOB sanction, but only with clients of certain characteristics. For the sample of U.S. clients, I do not find an increase in the likelihood of Deloitte being dismissed among the entire Deloitte client base. However, I do find that December year-end clients operating in highly litigated industries or those with tenure greater than three years are more likely to dismiss Deloitte in the post-sanction period. For the sample of U.S. highly litigated clients, the odds of Deloitte being dismissed after the PCAOB sanction are 180% higher than the odds of other Big N auditors being dismissed, after controlling for differences across time. For the sample of U.S. clients with tenure greater than three years, the odds of Deloitte being dismissed after the PCAOB sanction are 107% higher than the odds of other Big N auditors being dismissed, after controlling for differences across time. Concerns about auditor reputation, the perceived credibility of financial statements and the potential for shareholder litigation are potential factors driving this result. Thus, the release of new quality control information by the PCAOB is associated with an increase in client dismissals where litigation may be of particular concern. One limitation is that these results are generalizable to Deloitte's publicly traded clients; however, accounting firms do provide auditing services to various other types of organizations such as private companies, not-for-profits, and governmental entities. Information on these other types of clients is not as widely available; however, it is likely that the publicly traded clients are the biggest percentage of Deloitte's clientele portfolio.

Despite finding a negative and significant market reaction for Deloitte's U.S. clients in the market model analysis surrounding the release of "Part II", there is no evidence that this market reaction was different from that of clients of other Big N auditors. Additional tests provide marginal evidence of a negative reaction to the release of Part II for the sample of Deloitte's U.S. and Non U.S. clients, with results driven by the subset of Deloitte China clients. Therefore, unlike Dee et al. (2011) who find a negative market reaction to the PCAOB sanction announcement, I find limited evidence that the market is reacting to the release of the first Big N Part II PCAOB inspection report. I also find no strong evidence to support that there was a decrease in the perceived earnings quality for Deloitte clients after either the PCAOB sanction or the release of the Part II report in the earnings response coefficient analysis.

There could be multiple reasons for the outcome in the market reaction analysis and earnings response coefficient analysis. There could be no decrease in the perceived earnings quality of Deloitte clients if investors perceived the issues identified as isolated incidents not likely to affect the quality of engagements across the entire firm. Also, investors may not perceive that the information itself was informative either because of the content of the disclosure or because of the considerable lapse in time between when the issues occurred and when they were revealed to the public. There is no meaningful way to decipher between these alternatives with publicly available data. There also may not be an observable response in the earnings response coefficient analysis because there was already a documented market reaction response around the release of the sanction against Deloitte and perhaps the news was only a temporary shock which investors quickly forgot. There also could be no observable response to the Part II disclosure both in the market reaction and earnings response coefficient analyses because this was the second unusual disclosure from the PCAOB about Deloitte and perhaps it did not concern investors as much because they had already seen one unfavorable disclosure concerning this accounting firm.

Although there is limited evidence of observable investor responses to the public release of Part II, I am not suggesting that there is no valuable information in the Part II section of a PCAOB

inspection report or to the release of Part II of an inspection report. It is feasible that the threat of the PCAOB releasing a Part II report and/or the eventual release of a Part II report will enact change at a public accounting firm. For example, on the day of the release of Deloitte's Part II 2007 report, the CEO stated "We have been making a series of investments focused on strengthening and improving our practice." (Cohn 2011). Corroborating evidence of this can be found in the most recent peer review report for Deloitte for the period ending March 31, 2011. The report discloses that Deloitte implemented new policies and procedures for performing audits (AICPA 2012).

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APPENDIX

Table 1: Sample – Market Reaction to the release of Part II

	Deloitte clients	Other Big N clients
Big N auditor (according to Audit Analytics) with data on Compustat	955	3,147
Less: Not matched to CRSP	(1)	(9)
Sample with data on both CRSP and Compustat	954	3,138
Less: Insufficient returns on CRSP	(85)	(264)
Sample with sufficient return data	869	2,874
Less: Companies with potentially value relevant disclosures	(40)	(119)
Sample of U.S. and Non U.S. clients	829	2,755
Less: Companies with a Big N auditor outside the U.S.	(159)	(430)
Sample of U.S. clients	670	2,325

Table 2: Schipper and Thompson (1983) regressions

$$R_{pt} = \alpha + \beta_p R_{mt} + \sum \delta_{pk} \text{Event}_{kt} + \varepsilon_{pt}$$

Panel A: Deloitte Clients

Window	(-1) Coefficient (p-value)	(0) Coefficient (p-value)	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(-1 , +1) Coefficient (p-value)	(0, +1) Coefficient (p-value)	(0, +2) Coefficient (p-value)
U.S. only clients							
Constant	0.0000 0.833	0.0000 0.854	-0.0001 0.775	0.0000 0.818	0.0000 0.874	0.0000 0.833	0.0000 0.858
R_m	1.0422 0.000***	1.0397 0.000***	1.0408 0.000***	1.0409 0.000***	1.0418 0.000***	1.0413 0.000***	1.0409 0.000***
Event	-0.0026 0.405	-0.0038 0.230	0.0013 0.692	-0.0015 0.630	-0.0017 0.344	-0.0013 0.571	-0.0014 0.457
Adjusted R²	0.96	0.96	0.96	0.96	0.96	0.96	0.96

Window	(-1) Coefficient (p-value)	(0) Coefficient (p-value)	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(-1 , +1) Coefficient (p-value)	(0, +1) Coefficient (p-value)	(0, +2) Coefficient (p-value)
U.S. and Non U.S. clients							
Constant	-0.0002 0.268	-0.0002 0.279	-0.0002 0.248	-0.0002 0.255	-0.0002 0.311	-0.0002 0.283	-0.0002 0.296
R_m	1.0525 0.000***	1.0498 0.000***	1.0516 0.000***	1.0511 0.000***	1.0523 0.000***	1.0514 0.000***	1.0509 0.000***
Event	-0.0029 0.348	-0.0041 0.193	-0.0004 0.891	-0.0012 0.699	-0.0025 0.169	-0.0022 0.31	-0.0019 0.291
Adjusted R²	0.96	0.96	0.96	0.96	0.96	0.96	0.96

Table 2: Continued

Panel B: Other Big N Clients							
Window	(-1) Coefficient (p-value)	(0) Coefficient (p-value)	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(-1 , +1) Coefficient (p-value)	(0, +1) Coefficient (p-value)	(0, +2) Coefficient (p-value)
U.S. only clients							
Constant	0.0004 0.172	0.0004 0.178	0.0004 0.191	0.0004 0.179	0.0004 0.178	0.0004 0.188	0.0004 0.185
R_m	1.1012 0.000***	1.1001 0.000***	1.0997 0.000***	1.1002 0.000***	1.1006 0.000***	1.1004 0.000***	1.1005 0.000***
Event	-0.0022 0.604	-0.0009 0.831	0.0018 0.675	-0.0007 0.868	-0.0004 0.857	0.0004 0.884	0.0001 0.982
Adjusted R²	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Window	(-1) Coefficient (p-value)	(0) Coefficient (p-value)	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(-1 , +1) Coefficient (p-value)	(0, +1) Coefficient (p-value)	(0, +2) Coefficient (p-value)
U.S. and Non U.S. clients							
Constant	0.0003 0.246	0.0003 0.278	0.0003 0.267	0.0003 0.253	0.0003 0.266	0.0003 0.282	0.0003 0.274
R_m	1.0962 0.000***	1.0962 0.000***	1.0951 0.000***	1.0950 0.000***	1.0954 0.000***	1.0954 0.000***	1.0955 0.000***
Event	-0.0025 0.515	0.0020 0.605	0.0006 0.878	-0.0014 0.713	0.0000 0.992	0.0013 0.636	0.0004 0.862
Adjusted R²	0.94	0.94	0.94	0.94	0.94	0.94	0.94

Observations are the daily portfolio of the 670 (829) U.S. Deloitte clients (U.S. and Non U.S. clients) and 2,325 (2,755) U.S. other Big N clients (U.S. and Non U.S.) for the 253 trading days from November 15, 2010 to November 14, 2011.

R_{pt} = equally weighted portfolio return for all clients of Deloitte (or all other Big N clients) on day t

R_{mt} = market return on day t (proxied by CRSP value-weighted index)

$Event_{kt}$ = a dummy variable equal to one for the event window and zero for all other days in the estimation period. The event date is October 17, 2011 (Day 0); the day of the release of Part II – Issues Related to Quality Control.

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests.

Table 3: Schipper and Thompson (1983) regressions - returns winsorized

$$R_{pt} = \alpha + \beta_p R_{mt} + \sum \delta_{pk} \text{Event}_{kt} + \varepsilon_{pt}$$

Panel A: Deloitte Clients

Window	(-1) Coefficient (p-value)	(0) Coefficient (p-value)	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(-1 , +1) Coefficient (p-value)	(0, +1) Coefficient (p-value)	(0, +2) Coefficient (p-value)
U.S. only clients							
Constant	-0.0001 0.450	-0.0001 0.506	-0.0001 0.410	-0.0001 0.461	-0.0001 0.486	-0.0001 0.474	-0.0001 0.497
R _m	0.9878 0.000***	0.9856 0.000***	0.9866 0.000***	0.9871 0.000***	0.9879 0.000***	0.9875 0.000***	0.9871 0.000***
Event	-0.0008 0.772	-0.0048 0.085*	0.0023 0.409	-0.0015 0.584	-0.0011 0.495	-0.0012 0.530	-0.0013 0.406
Adjusted R ²	0.96	0.96	0.96	0.96	0.96	0.96	0.96

Window	(-1) Coefficient (p-value)	(0) Coefficient (p-value)	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(-1 , +1) Coefficient (p-value)	(0, +1) Coefficient (p-value)	(0, +2) Coefficient (p-value)
U.S. and Non U.S. clients							
Constant	-0.0004 0.030**	-0.0003 0.037	-0.0004 0.026**	-0.0004 0.03**	-0.0003 0.038**	-0.0003 0.036**	-0.0003 0.039**
R _m	0.9931 0.000***	0.9907 0.000***	0.9924 0.000***	0.9923 0.000***	0.9933 0.000***	0.9927 0.000***	0.9922 0.000***
Event	-0.0011 0.658	-0.0050 0.053*	0.0009 0.735	-0.0014 0.577	-0.0017 0.240	-0.0020 0.262	-0.0018 0.214
Adjusted R ²	0.97	0.97	0.97	0.97	0.97	0.97	0.97

Table 3: Continued

Panel B: Other Big N Clients							
Window	(-1) Coefficient (p-value)	(0) Coefficient (p-value)	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(-1 , +1) Coefficient (p-value)	(0, +1) Coefficient (p-value)	(0, +2) Coefficient (p-value)
U.S. only clients							
Constant	-0.0002 0.251	-0.0002 0.275	-0.0002 0.215	-0.0002 0.249	-0.0002 0.261	-0.0002 0.249	-0.0002 0.26
R_m	1.0440 0.000***	1.0419 0.000***	1.0423 0.000***	1.0433 0.000***	1.0438 0.000***	1.0436 0.000***	1.0434 0.000***
Event	-0.0014 0.658	-0.0041 0.179	0.0031 0.311	-0.0011 0.72	-0.0008 0.656	-0.0005 0.817	-0.0007 0.691
Adjusted R²	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Window	(-1) Coefficient (p-value)	(0) Coefficient (p-value)	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(-1 , +1) Coefficient (p-value)	(0, +1) Coefficient (p-value)	(0, +2) Coefficient (p-value)
U.S. and Non U.S. clients							
Constant	-0.0003 0.065*	-0.0003 0.071	-0.0003 0.054*	-0.0003 0.065*	-0.0003 0.071*	-0.0003 0.065*	-0.0003 0.071*
R_m	1.0370 0.000***	1.0351 0.000***	1.0357 0.000***	1.0360 0.000***	1.0368 0.000***	1.0365 0.000***	1.0362 0.000***
Event	-0.0016 0.567	-0.0034 0.223	0.0020 0.484	-0.0016 0.557	-0.0010 0.529	-0.0007 0.715	-0.0010 0.523
Adjusted R²	0.97	0.96	0.97	0.97	0.97	0.97	0.97

Observations are the daily portfolio of the 670 (829) U.S. Deloitte clients (U.S. and Non U.S.) and 2,325 (2,755) U.S. other Big N clients (U.S. and Non U.S.) for the 253 trading days from November 15, 2010 to November 14, 2011. Returns are winsorized at the 1% and 99% levels.

R_{pt} = equally weighted portfolio return for all clients of Deloitte (or all other Big N clients) on day t

R_{mt} = market return on day t (proxied by CRSP value-weighted index)

$Event_{kt}$ = a dummy variable equal to one for the event window and zero for all other days in the estimation period. The event date is October 17, 2011 (Day 0); the day of the release of Part II – Issues Related to Quality Control.

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests.

Table 4: Industry sector analysis - Schipper and Thompson regressions

$$R_{pt} = \alpha + \beta_p R_{mt} + \sum \delta_{pk} \text{Event}_{kt} + \varepsilon_{pt}$$

All coefficients are for the Event dummy.

Panel A: Deloitte Clients

Window	(-1) Coefficient (p-value)	(0) Coefficient (p-value)	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(-1, +1) Coefficient (p-value)	(0, +1) Coefficient (p-value)	(0, +2) Coefficient (p-value)
U.S. only clients							
Energy	-0.0002 0.977	0.0097 0.226	0.0087 0.275	0.0023 0.778	0.0061 0.189	0.0092 0.104	0.0069 0.135
Materials	-0.0024 0.745	-0.0141 0.052	0.0064 0.376	-0.0110 0.129	-0.0033 0.426	-0.0038 0.458	-0.0062 0.137
Industrials	-0.0011 0.849	-0.0112 0.056*	0.0056 0.344	-0.0025 0.667	-0.0023 0.507	-0.0028 0.499	-0.0027 0.422
Consumer Discretionary	-0.0052 0.384	-0.0020 0.740	-0.0051 0.395	0.0027 0.648	-0.0041 0.235	-0.0035 0.404	-0.0015 0.676
Consumer Staples	0.0048 0.462	-0.0088 0.180	-0.0064 0.330	-0.0053 0.417	-0.0035 0.362	-0.0076 0.102	-0.0068 0.070*
Health Care	-0.0087 0.213	-0.0077 0.270	-0.0071 0.305	0.0023 0.744	-0.0078 0.051*	-0.0074 0.133	-0.0042 0.298
Financials	-0.0079 0.198	-0.0069 0.266	0.0125 0.042**	-0.0001 0.991	-0.0008 0.830	0.0028 0.518	0.0019 0.602
Information Technology	-0.0041 0.597	-0.0084 0.278	0.0009 0.910	-0.0174 0.023**	-0.0039 0.386	-0.0037 0.494	-0.0083 0.061*
Telecommunication Services	-0.0134 0.398	-0.0162 0.307	-0.0065 0.681	-0.0076 0.630	-0.0121 0.187	-0.0113 0.312	-0.0102 0.268
Utilities	-0.0048 0.341	0.0079 0.116	-0.0027 0.590	0.0083 0.099*	0.0001 0.966	0.0026 0.468	0.0045 0.121

Table 4: Continued

Panel B: Other Big N Clients							
Window	(-1) Coefficient (p-value)	(0) Coefficient (p-value)	(1) Coefficient (p-value)	(2) Coefficient (p-value)	(-1 , +1) Coefficient (p-value)	(0, +1) Coefficient (p-value)	(0, +2) Coefficient (p-value)
U.S. only clients							
Energy	0.0171 0.095*	0.0135 0.189	0.0023 0.825	0.0036 0.728	0.0110 0.064*	0.0079 0.279	0.0065 0.277
Materials	-0.0011 0.830	-0.0112 0.031**	0.0023 0.658	-0.0107 0.039**	-0.0033 0.268	-0.0044 0.229	-0.0065 0.029**
Industrials	-0.0030 0.593	-0.0065 0.252	0.0030 0.596	-0.0021 0.713	-0.0022 0.506	-0.0017 0.664	-0.0019 0.570
Consumer Discretionary	-0.0068 0.351	-0.0031 0.669	-0.0021 0.773	0.0049 0.506	-0.0040 0.341	-0.0026 0.613	-0.0001 0.977
Consumer Staples	-0.0002 0.957	-0.0024 0.576	-0.0024 0.563	0.0013 0.753	-0.0017 0.491	-0.0024 0.422	-0.0012 0.635
Health Care	-0.0017 0.822	0.0020 0.788	-0.0042 0.566	0.0015 0.840	-0.0013 0.759	-0.0011 0.830	-0.0003 0.953
Financials	-0.0080 0.667	0.0028 0.882	0.0157 0.398	0.0007 0.971	0.0035 0.745	0.0092 0.483	0.0064 0.552
Information Technology	-0.0051 0.415	-0.0083 0.184	0.0004 0.953	-0.0102 0.102	-0.0044 0.229	-0.0040 0.371	-0.0061 0.093*
Telecommunication Services	-0.0067 0.853	0.0029 0.936	-0.0083 0.817	-0.0029 0.935	-0.0040 0.845	-0.0027 0.915	-0.0028 0.893
Utilities	-0.0032 0.516	0.0037 0.451	-0.0047 0.340	0.0057 0.244	-0.0014 0.623	-0.0005 0.887	0.0016 0.577

Observations are the daily portfolio of the 528 U.S. Deloitte clients and 1,970 U.S. other Big N clients for the 253 trading days from November 15, 2010 to November 14, 2011.

R_{pt} = equally weighted portfolio return for all clients of Deloitte (or all other Big N clients) on day t .

R_{mt} = market return on day t (proxied by CRSP value-weighted index)

$Event_{kt}$ = a dummy variable equal to one for the event window and zero for all other days in the estimation period. The event date is October 17, 2011 (Day 0); the day of the release of Part II – Issues Related to Quality Control.

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests. See Table 6 for industry percentages in each sector.

Table 5: Abnormal returns surrounding the release of Part II

Panel A: U.S. only clients												
Window	Deloitte Clients (N=670)					Other Big N Clients (N=2325)					Test of Differences ^a	
	Neg. (%)	Mean	Mean	Median	Wilcoxon	Neg. (%)	Mean	Mean	Median	Wilcoxon	Mean	Median
		CAR	(t-test)	CAR	signed		CAR	(t-test)	CAR	signed		
			(p-value)		rank test			(p-value)		rank test	(p-value)	(p-value)
(-1)	53.3%	-0.23%	0.035**	-0.10%	0.049**	56.9%	-0.21%	0.001***	-0.23%	0.000***	0.838	0.048**
(0)	55.4%	-0.39%	0.000***	-0.18%	0.000***	58.5%	-0.10%	0.617	-0.34%	0.000***	0.187	0.384
(1)	47.3%	0.16%	0.180	0.08%	0.058*	45.8%	0.19%	0.001***	0.15%	0.000***	0.776	0.375
(2)	48.5%	-0.16%	0.09*	0.07%	0.619	50.5%	-0.08%	0.181	-0.01%	0.025**	0.448	0.663
(-1 , +1)	51.0%	-0.47%	0.012**	-0.05%	0.016**	55.0%	-0.11%	0.604	-0.31%	0.000***	0.218	0.301
(0, +1)	51.0%	-0.24%	0.103	-0.02%	0.036**	52.9%	0.09%	0.660	-0.11%	0.003***	0.195	0.673
(0, +2)	52.2%	-0.40%	0.026**	-0.12%	0.010***	52.9%	0.01%	0.948	-0.15%	0.000***	0.148	0.773

Panel B: U.S. and Non U.S. clients												
Window	Deloitte Clients (N=829)					Other Big N Clients (N=2755)					Test of Differences ^a	
	Neg. (%)	Mean	Mean	Median	Wilcoxon	Neg. (%)	Mean	Mean	Median	Wilcoxon	Mean	Median
		CAR	(t-test)	CAR	signed		CAR	(t-test)	CAR	signed		
			(p-value)		rank test			(p-value)		rank test	(p-value)	(p-value)
(-1)	54.0%	-0.26%	0.008***	-0.13%	0.006***	57.1%	-0.24%	0.000***	-0.26%	0.000***	0.892	0.084*
(0)	55.0%	-0.43%	0.000***	-0.18%	0.000***	57.5%	0.19%	0.552	-0.32%	0.000***	0.059*	0.898
(1)	49.2%	0.00%	0.971	0.02%	0.675	48.1%	0.07%	0.216	0.08%	0.014**	0.542	0.387
(2)	49.1%	-0.14%	0.125	0.06%	0.457	50.9%	-0.15%	0.007***	-0.02%	0.002***	0.928	0.461
(-1 , +1)	53.2%	-0.69%	0.000***	-0.21%	0.000***	56.1%	0.02%	0.958	-0.38%	0.000***	0.053*	0.630
(0, +1)	52.5%	-0.43%	0.001***	-0.06%	0.001***	54.3%	0.26%	0.417	-0.17%	0.000***	0.045**	0.409
(0, +2)	53.7%	-0.57%	0.000***	-0.19%	0.000***	53.7%	0.11%	0.733	-0.21%	0.000***	0.059*	0.548

Table 5: Continued

Panel C: Sign Test									
U.S. only clients					U.S. and Non U.S. clients				
Deloitte Clients			Other Big N Clients		Deloitte Clients			Other Big N Clients	
Window	z -Stat.	(p-value)	z -Stat.	(p-value)	Window	z -Stat.	(p-value)	z -Stat.	(p-value)
(-1)	1.012	0.312	3.877	0.000***	(-1)	1.388	0.165	4.369	0.000***
(0)	1.773	0.076*	5.009	0.000***	(0)	1.779	0.075*	4.636	0.000***
(1)	-1.165	0.244	-3.615	0.000***	(1)	-0.567	0.571	-2.242	0.025**
(2)	-0.730	0.466	-0.450	0.653	(2)	-0.616	0.538	-0.242	0.808
(-1 , +1)	0.195	0.845	2.628	0.009***	(-1 , +1)	1.046	0.296	3.596	0.000***
(0, +1)	0.195	0.845	1.205	0.228	(0, +1)	0.753	0.452	2.263	0.024**
(0, +2)	0.631	0.528	1.176	0.240	(0, +2)	1.241	0.215	1.863	0.062*
N	670		2325		N	829		2755	

Abnormal returns are calculated using the standard market model methodology using 250 trading days prior to the event date (October 17, 2011 – Day 0) (excluding the 10 days before Day 0) and the CRSP value-weighted return (with dividends) to substitute for the market return. The abnormal return for firm i on day t (AR_{it}) is the difference between the firm's return and the estimated return; the cumulative abnormal return (CAR) is the sum of the abnormal returns over the event window.

The sign test examines whether the group analyzed (Deloitte or other Big N) had a higher proportion of negative cumulative abnormal returns in the event window compared to the estimation period (250 trading days prior to the event date excluding the 10 days before Day 0) (Cowan 1992).

^aTest of Differences present the p-values for mean (t-test) and median (Wilcoxon test) values.

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests.

Table 6: Abnormal returns surrounding the release of Part II – returns winsorized

Panel A: U.S. only clients												
Window	Deloitte Clients (N=670)					Other Big N Clients (N=2325)					Test of Differences ^a	
	Neg. (%)	Mean	Mean	Median	Wilcoxon	Neg. (%)	Mean	Mean	Median	Wilcoxon	Mean	Median
		CAR	(t-test)	CAR	signed		CAR	(t-test)	CAR	signed		
			(p-value)		rank test			(p-value)		rank test	(p-value)	(p-value)
(-1)	51.3%	-0.03%	0.679	-0.05%	0.727	54.3%	-0.10%	0.017**	-0.15%	0.000***	0.394	0.058*
(0)	58.8%	-0.52%	0.000***	-0.31%	0.000***	61.7%	-0.45%	0.000***	-0.42%	0.000***	0.451	0.485
(1)	44.6%	0.27%	0.001***	0.16%	0.001***	43.5%	0.34%	0.000***	0.26%	0.000***	0.408	0.215
(2)	49.7%	-0.18%	0.012**	0.01%	0.096*	52.1%	-0.14%	0.002***	-0.06%	0.000***	0.646	0.766
(-1 , +1)	50.0%	-0.28%	0.014**	0.01%	0.119	53.6%	-0.21%	0.003***	-0.21%	0.000***	0.608	0.411
(0, +1)	51.0%	-0.25%	0.006***	-0.01%	0.026**	52.3%	-0.11%	0.047**	-0.08%	0.013**	0.195	0.455
(0, +2)	53.0%	-0.43%	0.000***	-0.14%	0.001***	53.4%	-0.26%	0.001***	-0.19%	0.000***	0.212	0.557

Panel B: U.S. and Non U.S. clients												
Window	Deloitte Clients (N=829)					Other Big N Clients (N=2755)					Test of Differences ^a	
	Neg. (%)	Mean	Mean	Median	Wilcoxon	Neg. (%)	Mean	Mean	Median	Wilcoxon	Mean	Median
		CAR	(t-test)	CAR	signed		CAR	(t-test)	CAR	signed		
			(p-value)		rank test			(p-value)		rank test	(p-value)	(p-value)
(-1)	51.6%	-0.06%	0.365	-0.07%	0.369	54.5%	-0.13%	0.002***	-0.16%	0.000***	0.406	0.089*
(0)	58.1%	-0.54%	0.000***	-0.30%	0.000***	60.4%	-0.38%	0.000***	-0.40%	0.000***	0.061*	0.895
(1)	46.6%	0.13%	0.094*	0.12%	0.034**	45.8%	0.23%	0.000***	0.18%	0.000***	0.271	0.228
(2)	50.2%	-0.18%	0.015**	-0.01%	0.057*	52.6%	-0.19%	0.000***	-0.08%	0.000***	0.842	0.541
(-1 , +1)	52.1%	-0.47%	0.000***	-0.10%	0.002***	54.6%	-0.28%	0.000***	-0.28%	0.000***	0.154	0.872
(0, +1)	52.4%	-0.41%	0.000***	-0.06%	0.000***	53.6%	-0.16%	0.004***	-0.13%	0.000***	0.019**	0.237
(0, +2)	54.3%	-0.59%	0.000***	-0.27%	0.000***	54.0%	-0.35%	0.000***	-0.24%	0.000***	0.091*	0.335

Table 6: Continued

Panel C: Sign Test									
U.S. only clients					U.S. and Non U.S. clients				
Deloitte Clients			Other Big N Clients		Deloitte Clients			Other Big N Clients	
Window	z -Stat.	(p-value)	z -Stat.	(p-value)	Window	z -Stat.	(p-value)	z -Stat.	(p-value)
(-1)	0.341	0.733	2.437	0.015**	(-1)	0.471	0.638	2.767	0.006***
(0)	3.065	0.002***	7.421	0.000***	(0)	3.113	0.002***	7.103	0.000***
(1)	-2.110	0.035**	-4.908	0.000***	(1)	-1.585	0.113	-3.630	0.000***
(2)	-0.258	0.796	0.921	0.357	(2)	-0.117	0.907	1.348	0.178
(-1 , +1)	-0.149	0.882	1.942	0.052*	(-1 , +1)	0.666	0.505	2.794	0.005***
(0, +1)	0.232	0.816	1.096	0.273	(0, +1)	0.764	0.445	2.071	0.038
(0, +2)	0.940	0.347	1.825	0.068*	(0, +2)	1.547	0.122	2.392	0.017**
N	670		2325		N	829		2755	

Abnormal returns are calculated using the standard market model methodology using 250 trading days prior to the event date (October 17, 2011 – Day 0) (excluding the 10 days before Day 0) and the CRSP value-weighted return (with dividends) to substitute for the market return. The abnormal return for firm i on day t (AR_{it}) is the difference between the firm's return and the estimated return; the cumulative abnormal return (CAR) is the sum of the abnormal returns over the event window. Returns are winsorized at the 1% and 99% levels.

The sign test examines whether the group analyzed (Deloitte or other Big N) had a higher proportion of negative cumulative abnormal returns in the event window compared to the estimation period (250 trading days prior to the event date excluding the 10 days before Day 0) (Cowan 1992).

^aTest of Differences present the p-values for mean (t-test) and median (Wilcoxon test) values.

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests.

Table 7: Industry sector analysis - abnormal returns surrounding the release of Part II

Panel A: Day (0)														
	Deloitte Clients (N=528)						Other Big N Clients (N=1970)						Test of Differences ^a	
	Freq (%)	Neg (%)	Mean CAR	Mean (t-test) (p-value)	Median CAR	Wilcoxon signed rank test	Freq (%)	Neg (%)	Mean CAR	Mean (t-test) (p-value)	Median CAR	Wilcoxon signed rank test	Mean (p-value)	Median (p-value)
U.S. only clients														
Energy	7.2%	44.7%	0.97%	0.304	0.12%	0.577	7.4%	38.4%	1.30%	0.001***	0.82%	0.002***	0.746	0.363
Materials	5.1%	81.5%	-1.51%	0.001***	-1.66%	0.001***	4.8%	79.8%	-1.20%	0.000***	-0.94%	0.000***	0.453	0.227
Industrials	16.5%	69.0%	-1.20%	0.000***	-0.94%	0.000***	13.4%	69.3%	-0.70%	0.000***	-0.80%	0.000***	0.050**	0.181
Consumer Discretionary	19.1%	58.4%	-0.21%	0.260	-0.40%	0.155	14.6%	54.0%	-0.29%	0.063	-0.25%	0.039**	0.727	0.973
Consumer Staples	3.4%	72.2%	-0.95%	0.01***	-0.41%	0.012**	3.9%	61.8%	-0.25%	0.244	-0.17%	0.165	0.138	0.089*
Health Care	9.1%	68.8%	-0.76%	0.032**	-0.84%	0.004	15.7%	66.3%	0.22%	0.789	-0.65%	0.000***	0.277	0.889
Financials	16.1%	65.9%	-0.80%	0.001***	-0.68%	0.000***	18.5%	69.0%	0.25%	0.810	-0.76%	0.000***	0.326	0.465
Information Technology	15.2%	65.0%	-0.84%	0.001***	-0.74%	0.001***	18.2%	64.9%	-0.88%	0.000***	-0.71%	0.000***	0.881	0.988
Telecommunication Services	1.1%	50.0%	-1.58%	0.356	-0.25%	0.600	1.3%	28.0%	0.38%	0.321	0.73%	0.083*	0.270	0.271
Utilities	7.2%	10.5%	0.81%	0.000***	0.67%	0.000***	2.3%	31.1%	0.36%	0.191	0.43%	0.016**	0.146	0.201
Total	100%						100%							

Table 7: Continued

Panel B: Days (0,+2)														
	Deloitte Clients (N=528)						Other Big N Clients (N=1970)						Test of Differences ^a	
	Freq (%)	Neg (%)	Mean CAR	Mean (t-test) (p-value)	Median CAR	Wilcoxon signed rank test	Freq (%)	Neg (%)	Mean CAR	Mean (t-test) (p-value)	Median CAR	Wilcoxon signed rank test	Mean (p-value)	Median (p-value)
U.S. only clients														
Energy	7.2%	47.4%	2.03%	0.224	0.05%	0.617	7.4%	37.7%	1.89%	0.000***	1.28%	0.000***	0.936	0.151
Materials	5.1%	74.1%	-1.89%	0.023**	-1.94%	0.017**	4.8%	74.5%	-2.07%	0.000***	-1.67%	0.000***	0.828	0.980
Industrials	16.5%	60.9%	-0.86%	0.013**	-0.94%	0.003***	13.4%	60.2%	-0.58%	0.006***	-0.54%	0.001***	0.496	0.341
Consumer Discretionary	19.1%	54.5%	-0.42%	0.477	-0.45%	0.688	14.6%	55.1%	-0.05%	0.890	-0.38%	0.140	0.585	0.652
Consumer Staples	3.4%	88.9%	-2.12%	0.002***	-1.67%	0.002***	3.9%	55.3%	-0.38%	0.403	-0.15%	0.873	0.022**	0.002***
Health Care	9.1%	68.8%	-1.27%	0.074*	-1.16%	0.023**	15.7%	62.1%	-0.06%	0.945	-0.93%	0.000***	0.285	0.855
Financials	16.1%	40.0%	0.46%	0.186	0.62%	0.042**	18.5%	35.3%	1.91%	0.086*	1.11%	0.000***	0.215	0.140
Information Technology	15.2%	76.3%	-2.45%	0.000***	-1.59%	0.000***	18.2%	74.1%	-1.87%	0.000***	-1.58%	0.000***	0.375	0.577
Telecommunication Services	1.1%	83.3%	-3.07%	0.130	-1.86%	0.116	1.3%	56.0%	-0.25%	0.646	-0.18%	0.737	0.164	0.134
Utilities	7.2%	7.9%	1.35%	0.000***	1.48%	0.000***	2.3%	24.4%	0.45%	0.225	0.48%	0.008***	0.028**	0.019**
Total	100%						100%							

Abnormal returns are calculated using the standard market model methodology using 250 trading days prior to the event date (October 17, 2011 – Day 0) (excluding the 10 days before Day 0) and the CRSP value-weighted return (with dividends) to substitute for the market return. The abnormal return for firm i on day t (AR_{it}) is the difference between the firm's return and the estimated return; the cumulative abnormal return (CAR) is the sum of the abnormal returns over the event window.

^aTest of Differences present the p-values for mean (t-test) and median (Wilcoxon test) values.

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests.

Table 8: Multivariate analysis of market reaction to the release of Part II

Panel A: Descriptive Statistics			
U.S. only clients			
	Deloitte Clients (N=405)		
	Mean	Median	Std. Dev.
FINC_DISTRESS	0.042	0.000	0.142
PREV_RET	0.028	0.034	0.332
SIZE	7.211	7.268	1.667
BM	0.503	0.452	0.391
LEVERAGE	0.225	0.191	0.209
SALE_GROWTH	0.190	0.090	1.070
ROA	0.019	0.013	0.120
GC	0.005	0.000	0.070
TENURE	0.091	0.000	0.288
INST	0.718	0.765	0.211

Table 8: Continued

Panel B: Sefcik and Thompson (1986) regressions								
Return _{j,t} = $\alpha + \beta_j$ Return _{m,t} + δ_j Event _t + ε_{jt}								
Event Window	Deloitte - U.S. only clients				Deloitte - U.S. and Non U.S. clients			
	Day (0) Coefficient	(p-value)	Day (0,+2) Coefficient	(p-value)	Day (0) Coefficient	(p-value)	Day (0,+2) Coefficient	(p-value)
CONSTANT	0.0027	0.739	0.0021	0.650	-0.0058	0.420	-0.0042	0.311
FINC_DISTRESS	0.0365	0.007***	0.0275	0.000***	0.0010	0.905	-0.0016	0.750
PREV_RET	0.0025	0.568	0.0009	0.707	0.0066	0.052*	0.0035	0.072*
SIZE	0.0002	0.824	0.0001	0.835	0.0001	0.907	-0.0001	0.877
BM	0.0029	0.324	0.0008	0.648	0.0034	0.193	-0.0003	0.824
LEVERAGE	-0.0031	0.735	-0.0048	0.358	-0.0007	0.926	0.0000	0.992
SALE_GROWTH	-0.0014	0.123	-0.0002	0.741	-0.0003	0.695	-0.0002	0.638
ROA	0.0196	0.146	0.0079	0.314	0.0124	0.228	0.0036	0.547
GC	-0.0259	0.103	-0.0098	0.288	-0.0057	0.571	0.0018	0.757
TENURE	0.0010	0.783	0.0012	0.574	-0.0025	0.505	-0.0014	0.521
INST	-0.0155	0.016**	-0.0084	0.025**	-0.0008	0.877	0.0036	0.250
N	405				514			

The table presents the multivariate analysis of the market reaction to the release of Part II – Issues Related to Quality Control for Deloitte clients with information for computing all variables below, plus the required return information from the 253 trading days from November 15, 2010 to November 14, 2011.

Return _{j,t}	=	weighted portfolio return on day t ($t = 1, 2, \dots, 253$) for firm characteristic p ($p = 1, 2, \dots, 11$). Day t represents a trading day from November 15, 2010 to November 14, 2011. Firm characteristic j represents one of the firm-specific characteristics (including the constant)
Return _{m,t}	=	market return on day t ($t = 1, 2, \dots, 253$), proxied by the CRSP value-weighted index
Event _t	=	an indicator variable for the public release of Part II - Issues Related to Quality Control, equal to 1 for the event window(s) and 0 otherwise
FINC_DISTRESS	=	Zmijewski's (1984) financial distress measure / Sinkey (1987)
PREV_RET	=	cumulative raw returns from November 15, 2010 to September 15, 2011
SIZE	=	natural log of total assets (in million dollars)
BM	=	book value of equity divided by market value of equity
LEVERAGE	=	ratio of total debt to total assets
SALE_GROWTH	=	growth rate in sales
ROA	=	two-digit SIC code median adjusted ROA
GC	=	equal to one if client received a going-concern explanatory paragraph opinion in the prior year
TENURE	=	equal to one if auditor tenure is 3 years or less
INST	=	percentage of institutional ownership, (number of shares owned by institutional investors / total shares outstanding).

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests.

Table 9: Sample - ERC Analysis

Panel A: PCAOB Sanction sample	
Big N auditor (according to Audit Analytics) with data on Compustat, CRSP, and IBES	4,053
Less: Companies that changed auditors	(172)
Less: Companies with missing financial data	(219)
Sample of U.S. and Non U.S. clients	3,662
Less: Companies with a Big N auditor outside the U.S.	(461)
Sample of U.S. clients	3,201
Panel B: Part II - Quality Control Disclosure Sample	
Big N auditor (according to Audit Analytics) with data on Compustat, CRSP, and IBES	4,201
Less: Companies that changed auditors	(87)
Less: Companies with missing financial data	(529)
Sample of U.S. and Non U.S. clients	3,585
Less: Companies with a Big N auditor outside the U.S.	(126)
Sample of U.S. clients	3,459

Table 10: Descriptive Statistics -ERC Analysis

Panel A: Descriptive statistics for PCAOB Sanction sample								
	Deloitte Clients (N=812)			Other Big N Clients (N=2850)			Test of Differences^a	
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean (p-value)	Median (p-value)
CAR	0.006	0.002	0.073	0.002	0.002	0.077	0.244	0.515
UE	(0.002)	0.000	0.014	(0.002)	0.000	0.014	0.872	0.859
EXPERT	0.333	0.000	0.471	0.324	0.000	0.468	0.643	0.643
MB	2.862	2.169	3.099	3.325	2.349	4.604	0.001***	0.010***
STDRET	0.024	0.022	0.013	0.025	0.023	0.013	0.181	0.057
LEVERAGE	0.250	0.229	0.212	0.233	0.187	0.215	0.048**	0.013**
MVE	7.527	7.408	1.572	7.496	7.373	1.655	0.626	0.380
LOSS	0.214	0.000	0.411	0.225	0.000	0.417	0.535	0.535
REST	0.037	0.000	0.189	0.020	0.000	0.139	0.015**	0.004***
ABSUE	0.006	0.002	0.017	0.006	0.002	0.018	0.550	0.866
404b	0.901	1.000	0.298	0.915	1.000	0.278	0.233	0.215

Table 10: Continued

Panel B: Descriptive statistics for Part II - Quality Control Disclosure sample

							Test of Differences ^a	
							Mean	Median
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	(p-value)	(p-value)
CAR	(0.005)	(0.004)	0.074	(0.003)	(0.002)	0.075	0.454	0.310
UE	0.001	0.001	0.011	0.001	0.001	0.011	0.492	0.532
EXPERT	0.344	0.000	0.475	0.321	0.000	0.467	0.209	0.209
MB	2.259	1.531	3.396	2.505	1.651	3.907	0.082*	0.012**
STDRET	0.029	0.028	0.013	0.030	0.029	0.012	0.063*	0.038**
LEVERAGE	0.247	0.220	0.208	0.226	0.184	0.208	0.011**	0.003***
MVE	7.246	7.183	1.573	7.156	7.082	1.626	0.168	0.164
LOSS	0.205	0.000	0.404	0.212	0.000	0.409	0.674	0.674
REST	0.013	0.000	0.111	0.015	0.000	0.123	0.524	0.547
ABSUE	0.006	0.002	0.013	0.006	0.002	0.012	0.678	0.252
404b	0.901	1.000	0.299	0.898	1.000	0.302	0.823	0.823

^aTest of Differences present the p-values for mean (t-test) and median (Wilcoxon test) values.

Refer to pages 26-27 for variable definitions.

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests.

Table 11: ERC Analysis – PCAOB Sanction - CAR (-1,+1)

$$CAR_{it} = \beta_0 + \beta_1 UE_{it} + \beta_2 POST + \beta_3 D_{it} + \beta_4 D_{it} * POST + \beta_5 UE_{it} * D_{it} + \beta_6 UE_{it} * POST + \beta_7 UE_{it} * D_{it} * POST + \beta_8 UE_{it} * MB_{it} + \beta_9 UE_{it} * STDRET_{it} + \beta_{10} UE_{it} * LEVERAGE_{it} + \beta_{11} UE_{it} * LOSS_{it} + \beta_{12} UE_{it} * REST_{it} + \beta_{13} UE_{it} * MVE_{it} + \beta_{14} UE_{it} * ABSUE_{it} + \beta_{15} UE_{it} * EXPERT_{it} + \beta_{16} UE_{it} * 404b_{it} + \beta_{17} UE_{it} * INDUSTRY_{it} + \varepsilon_{it}$$

	U.S. clients			U.S. & Non U.S. clients		
	(1) All earnings announcements	(2) Announcements within 45 days	(3) Announcements within 45 days & no SIC 6000	(4) All earnings announcements	(5) Announcements within 45 days	(6) Announcements within 45 days & no SIC 6000
Intercept	0.001 (0.371)	0.000 (0.960)	0.001 (0.837)	0.001 (0.433)	0.000 (0.830)	0.001 (0.675)
UE	2.317** (0.045)	5.055*** (0.001)	6.804*** (0.009)	2.597*** (0.008)	4.903*** (0.000)	7.449*** (0.001)
POST	0.001 (0.700)	0.008** (0.023)	-0.000 (0.962)	0.001 (0.682)	0.008** (0.018)	0.001 (0.836)
D	0.003 (0.470)	0.003 (0.578)	0.004 (0.521)	0.001 (0.799)	0.000 (0.950)	0.001 (0.849)
D*POST	0.002 (0.782)	-0.007 (0.386)	-0.002 (0.868)	0.004 (0.506)	-0.007 (0.335)	-0.002 (0.823)
UE*D	-0.235 (0.702)	1.376 (0.430)	1.309 (0.560)	-0.708 (0.175)	0.759 (0.519)	0.860 (0.634)
UE*POST	0.033 (0.932)	1.353*** (0.008)	1.423** (0.029)	-0.316 (0.374)	1.271*** (0.009)	1.333** (0.034)
UE*D*POST	-0.638 (0.410)	-1.923 (0.291)	-2.279 (0.324)	-0.255 (0.701)	-1.067 (0.402)	-1.532 (0.416)
UE*MB	0.019 (0.625)	-0.020 (0.792)	0.032 (0.647)	0.037 (0.327)	0.004 (0.957)	0.069 (0.298)
UE*STDRET	-3.656 (0.756)	-33.636** (0.015)	-16.902 (0.341)	0.871 (0.934)	-24.472* (0.077)	-15.457 (0.404)
UE*LEVERAGE	0.712 (0.205)	-0.483 (0.720)	-2.093 (0.223)	1.041** (0.049)	-0.352 (0.785)	-2.018 (0.213)
UE*LOSS	-1.109** (0.025)	-1.791*** (0.005)	-2.235*** (0.001)	-1.006** (0.017)	-1.994*** (0.001)	-2.442*** (0.000)
UE*REST	1.162** (0.042)	0.831 (0.460)	1.335 (0.298)	0.927* (0.072)	1.340 (0.211)	1.797 (0.146)
UE*MVE	0.070 (0.599)	-0.054 (0.780)	-0.136 (0.671)	-0.012 (0.909)	-0.122 (0.508)	-0.333 (0.207)
UE*ABSUE	-14.251*** (0.000)	-18.544*** (0.003)	-30.024*** (0.001)	-14.630*** (0.000)	-20.937*** (0.000)	-30.306*** (0.000)
UE*EXPERT	-0.182 (0.645)	0.489 (0.544)	1.371 (0.166)	-0.176 (0.629)	0.949 (0.182)	1.985** (0.036)
UE*404b	-0.186 (0.683)	-1.067 (0.161)	-1.361* (0.081)	-0.002 (0.997)	-0.769 (0.238)	-1.002 (0.161)

Table 11: Continued

	<u>U.S. clients</u>			<u>U.S. & Non U.S. clients</u>		
	(1) All earnings announcements	(2) Announcements within 45 days	(3) Announcements within 45 days & no SIC 6000	(4) All earnings announcements	(5) Announcements within 45 days	(6) Announcements within 45 days & no SIC 6000
INDUSTRY	YES	YES	YES	YES	YES	YES
N	3,201	1,956	1,412	3,662	2,169	1,588
R-squared	0.046	0.061	0.069	0.045	0.063	0.068
UE*D +UE*D*POST	-0.873* (0.055)	-0.547 (0.427)	-0.097 (0.356)	-0.963** (0.022)	-0.307 (0.627)	-0.067 (0.499)
UE*POST+UE*D*POS T	-0.605 (0.404)	-0.571 (0.756)	-0.856 (0.717)	-0.571 (0.354)	0.204 (0.875)	-0.198 (0.920)

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests. P-values are reported in brackets.

Refer to pages 26-27 for variable definitions. The dependent variable is the CAR for the (-1,+1) window.

Table 12: ERC Analysis – PCAOB Sanction - CAR (-2,+2)

$$CAR_{it} = \beta_0 + \beta_1 UE_{it} + \beta_2 POST + \beta_3 D_{it} + \beta_4 D_{it} * POST + \beta_5 UE_{it} * D_{it} + \beta_6 UE_{it} * POST + \beta_7 UE_{it} * D_{it} * POST + \beta_8 UE_{it} * MB_{it} + \beta_9 UE_{it} * STDRET_{it} + \beta_{10} UE_{it} * LEVERAGE_{it} + \beta_{11} UE_{it} * LOSS_{it} + \beta_{12} UE_{it} * REST_{it} + \beta_{13} UE_{it} * MVE_{it} + \beta_{14} UE_{it} * ABSUE_{it} + \beta_{15} UE_{it} * EXPERT_{it} + \beta_{16} UE_{it} * 404b_{it} + \beta_{17} UE_{it} * INDUSTRY_{it} + \varepsilon_{it}$$

	U.S. clients			U.S. & Non U.S. clients		
	(1) All earnings announcements	(2) Announcements within 45 days	(3) Announcements within 45 days & no SIC 6000	(4) All earnings announcements	(5) Announcements within 45 days	(6) Announcements within 45 days & no SIC 6000
Intercept	0.003 (0.123)	0.002 (0.368)	0.003 (0.284)	0.003 (0.109)	0.002 (0.295)	0.003 (0.214)
UE	2.839** (0.022)	3.649** (0.042)	5.152 (0.103)	3.028*** (0.005)	4.080** (0.013)	5.745** (0.038)
POST	0.001 (0.838)	0.010** (0.015)	-0.000 (0.964)	0.000 (0.931)	0.010*** (0.009)	0.001 (0.789)
D	0.003 (0.495)	0.002 (0.657)	0.003 (0.611)	0.001 (0.840)	0.001 (0.829)	0.002 (0.794)
D*POST	0.000 (0.994)	-0.011 (0.178)	-0.004 (0.669)	0.003 (0.591)	-0.012 (0.120)	-0.005 (0.603)
UE*D	0.508 (0.471)	1.230 (0.516)	0.884 (0.728)	-0.102 (0.866)	0.607 (0.645)	0.404 (0.848)
UE*POST	0.221 (0.570)	1.452** (0.011)	1.672** (0.019)	-0.141 (0.708)	1.382** (0.013)	1.543** (0.026)
UE*D*POST	-1.727* (0.055)	-2.046 (0.313)	-2.267 (0.387)	-1.091 (0.159)	-1.124 (0.437)	-1.285 (0.553)
UE*MB	0.041 (0.330)	-0.010 (0.906)	0.044 (0.578)	0.053 (0.178)	0.015 (0.868)	0.075 (0.316)
UE*STDRET	-7.005 (0.585)	-40.760*** (0.009)	-19.182 (0.315)	-3.171 (0.793)	-30.548* (0.051)	-15.761 (0.420)
UE*LEVERAGE	0.737 (0.231)	-0.760 (0.619)	-3.806** (0.040)	1.170** (0.046)	-0.574 (0.698)	-3.786** (0.033)
UE*LOSS	-1.123** (0.031)	-1.523** (0.037)	-1.894** (0.019)	-1.098** (0.015)	-2.010*** (0.003)	-2.298*** (0.005)
UE*REST	1.238* (0.056)	-0.042 (0.973)	0.477 (0.738)	0.947 (0.111)	0.643 (0.590)	1.052 (0.452)
UE*MVE	0.079 (0.598)	-0.052 (0.811)	-0.094 (0.782)	-0.034 (0.787)	-0.125 (0.557)	-0.235 (0.419)
UE*ABSUE	-15.992*** (0.000)	-16.424** (0.017)	-31.457*** (0.001)	-15.617*** (0.000)	-20.174*** (0.002)	-31.505*** (0.000)
UE*EXPERT	-0.112 (0.790)	0.646 (0.474)	2.036* (0.067)	-0.126 (0.750)	1.185 (0.132)	2.536** (0.017)
UE*404b	-0.695 (0.192)	-0.132 (0.904)	-0.267 (0.817)	-0.253 (0.572)	-0.074 (0.935)	-0.014 (0.989)

Table 12: Continued

	<u>U.S. clients</u>			<u>U.S. & Non U.S. clients</u>		
	(1) All earnings announcements	(2) Announcements within 45 days	(3) Announcements within 45 days & no SIC 6000	(4) All earnings announcements	(5) Announcements within 45 days	(6) Announcements within 45 days & no SIC 6000
INDUSTRY	YES	YES	YES	YES	YES	YES
N	3,201	1,956	1,412	3,662	2,169	1,588
R-squared	0.047	0.062	0.077	0.044	0.064	0.074
UE*D+UE*D*POST	-1.219** (0.028)	-0.816 (0.298)	-1.383 (0.197)	-1.194** (0.017)	-0.517 (0.475)	-0.881 (0.403)
UE*POST+UE*D*POST	-1.505* (0.085)	-0.594 (0.772)	-0.595 (0.825)	-1.23* (0.095)	0.258 (0.861)	0.259 (0.909)

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests. P-values are reported in brackets.

Refer to pages 26-27 for variable definitions. The dependent variable is the CAR for the (-2,+2) window.

Table 13: ERC Analysis – Part II Quality Control Disclosure - CAR (-1,+1)

$$CAR_{it} = \beta_0 + \beta_1 UE_{it} + \beta_2 POST + \beta_3 D_{it} + \beta_4 D_{it} * POST + \beta_5 UE_{it} * D_{it} + \beta_6 UE_{it} * POST + \beta_7 UE_{it} * D_{it} * POST + \beta_8 UE_{it} * MB_{it} + \beta_9 UE_{it} * STDRET_{it} + \beta_{10} UE_{it} * LEVERAGE_{it} + \beta_{11} UE_{it} * LOSS_{it} + \beta_{12} UE_{it} * REST_{it} + \beta_{13} UE_{it} * MVE_{it} + \beta_{14} UE_{it} * ABSUE_{it} + \beta_{15} UE_{it} * EXPERT_{it} + \beta_{16} UE_{it} * 404b_{it} + \beta_{17} UE_{it} * INDUSTRY_{it} + \varepsilon_{it}$$

	U.S. clients			U.S. & Non U.S. clients		
	(1) All earnings announcements	(2) Announcements within 45 days	(3) Announcements within 45 days & no SIC 6000	(4) All earnings announcements	(5) Announcements within 45 days	(6) Announcements within 45 days & no SIC 6000
Intercept	-0.009*** (0.000)	-0.009*** (0.000)	-0.008*** (0.000)	-0.008*** (0.000)	-0.008*** (0.000)	-0.008*** (0.000)
UE	3.560*** (0.001)	3.578*** (0.001)	5.504*** (0.001)	2.688** (0.014)	2.606** (0.021)	3.822** (0.027)
POST	0.003 (0.263)	0.003 (0.313)	-0.001 (0.789)	0.003 (0.325)	0.003 (0.308)	-0.001 (0.852)
D	-0.003 (0.387)	-0.004 (0.349)	-0.004 (0.363)	-0.005 (0.230)	-0.005 (0.201)	-0.005 (0.249)
D*POST	0.004 (0.494)	0.005 (0.365)	0.007 (0.299)	0.005 (0.343)	0.006 (0.288)	0.007 (0.288)
UE*D	-0.380 (0.450)	-0.390 (0.464)	-0.138 (0.808)	-0.530 (0.275)	-0.501 (0.331)	-0.296 (0.603)
UE*POST	0.215 (0.544)	0.150 (0.676)	0.636 (0.138)	0.099 (0.768)	0.054 (0.873)	0.639 (0.147)
UE*D*POST	0.173 (0.802)	0.201 (0.790)	-0.091 (0.915)	0.351 (0.601)	0.383 (0.602)	-0.006 (0.995)
UE*MB	0.023 (0.624)	0.023 (0.621)	0.031 (0.485)	0.025 (0.584)	0.023 (0.604)	0.030 (0.491)
UE*STDRET	16.055 (0.201)	18.125 (0.160)	18.410 (0.240)	16.291 (0.152)	17.784 (0.127)	14.430 (0.353)
UE*LEVERAGE	-0.415 (0.527)	-0.309 (0.661)	0.194 (0.832)	-0.016 (0.980)	0.124 (0.851)	0.822 (0.369)
UE*LOSS	-1.218*** (0.003)	-1.223*** (0.004)	-1.785*** (0.001)	-1.143*** (0.003)	-1.105*** (0.006)	-1.571*** (0.003)
UE*REST	-1.000 (0.248)	-0.930 (0.289)	-0.766 (0.413)	-0.960 (0.182)	-0.932 (0.197)	-0.779 (0.315)
UE*MVE	-0.172* (0.093)	-0.172* (0.098)	-0.391** (0.033)	-0.102 (0.325)	-0.093 (0.380)	-0.232 (0.237)
UE*ABSUE	-27.028*** (0.000)	-29.166*** (0.000)	-44.201*** (0.000)	-23.482*** (0.000)	-25.438*** (0.000)	-36.879*** (0.000)
UE*EXPERT	-0.500* (0.095)	-0.502 (0.110)	-0.545 (0.196)	-0.418 (0.139)	-0.394 (0.182)	-0.385 (0.370)
UE*404b	1.094*** (0.005)	1.043*** (0.009)	0.917* (0.060)	1.096*** (0.002)	1.049*** (0.005)	0.970** (0.043)
INDUSTRY	YES	YES	YES	YES	YES	YES

Table 13: Continued

	<u>U.S. clients</u>			<u>U.S. & Non U.S. clients</u>		
	(1) All earnings announcements	(2) Announcements within 45 days	(3) Announcements within 45 days & no SIC 6000	(4) All earnings announcements	(5) Announcements within 45 days	(6) Announcements within 45 days & no SIC 6000
N	3,459	3,371	2,827	3,585	3,486	2,906
R-squared	0.103	0.103	0.105	0.100	0.101	0.100
UE*D+UE*D*POST	-0.207 (0.666)	-0.189 (0.722)	-0.229 (0.727)	-0.179 (0.697)	-0.118 (0.817)	-0.302 (0.642)
UE*POST+UE*D*POST	0.388 (0.516)	0.351 (0.596)	0.544 (0.477)	0.450 (0.438)	0.437 (0.498)	0.633 (0.411)

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests. P-values are reported in brackets.

Refer to pages 26-27 for variable definitions. The dependent variable is the CAR for the (-1,+1) window.

Table 14: ERC Analysis – Part II Quality Control Disclosure - CAR (-2,+2)

$$CAR_{it} = \beta_0 + \beta_1 UE_{it} + \beta_2 POST + \beta_3 D_{it} + \beta_4 D_{it} * POST + \beta_5 UE_{it} * D_{it} + \beta_6 UE_{it} * POST + \beta_7 UE_{it} * D_{it} * POST + \beta_8 UE_{it} * MB_{it} + \beta_9 UE_{it} * STDRET_{it} + \beta_{10} UE_{it} * LEVERAGE_{it} + \beta_{11} UE_{it} * LOSS_{it} + \beta_{12} UE_{it} * REST_{it} + \beta_{13} UE_{it} * MVE_{it} + \beta_{14} UE_{it} * ABSUE_{it} + \beta_{15} UE_{it} * EXPERT_{it} + \beta_{16} UE_{it} * 404b_{it} + \beta_{17} UE_{it} * INDUSTRY_{it} + \varepsilon_{it}$$

	U.S. clients			U.S. & Non U.S. clients		
	(1) All earnings announcements	(2) Announcements within 45 days	(3) Announcements within 45 days & no SIC 6000	(4) All earnings announcements	(5) Announcements within 45 days	(6) Announcements within 45 days & no SIC 6000
Intercept	-0.009*** (0.000)	-0.008*** (0.000)	-0.007*** (0.006)	-0.008*** (0.000)	-0.008*** (0.000)	-0.007*** (0.006)
UE	4.280*** (0.001)	4.290*** (0.002)	6.339*** (0.001)	3.349*** (0.009)	3.267** (0.014)	4.765** (0.014)
POST	0.003 (0.253)	0.003 (0.309)	-0.002 (0.645)	0.003 (0.260)	0.003 (0.263)	-0.001 (0.830)
D	-0.004 (0.329)	-0.005 (0.296)	-0.005 (0.302)	-0.005 (0.222)	-0.006 (0.180)	-0.006 (0.207)
D*POST	0.007 (0.296)	0.008 (0.231)	0.010 (0.193)	0.008 (0.207)	0.009 (0.182)	0.010 (0.193)
UE*D	-0.659 (0.254)	-0.674 (0.266)	-0.275 (0.671)	-0.842 (0.128)	-0.786 (0.179)	-0.477 (0.465)
UE*POST	0.544 (0.199)	0.459 (0.283)	0.926* (0.073)	0.359 (0.366)	0.303 (0.447)	0.789 (0.127)
UE*D*POST	0.944 (0.238)	1.158 (0.197)	0.720 (0.488)	1.132 (0.143)	1.315 (0.126)	0.856 (0.401)
UE*MB	0.033 (0.551)	0.035 (0.533)	0.042 (0.439)	0.035 (0.497)	0.034 (0.515)	0.040 (0.445)
UE*STDRET	1.973 (0.902)	4.726 (0.774)	2.381 (0.904)	2.489 (0.861)	4.084 (0.779)	-0.768 (0.969)
UE*LEVERAGE	-0.797 (0.321)	-0.675 (0.426)	-0.130 (0.908)	-0.059 (0.942)	0.122 (0.886)	0.834 (0.481)
UE*LOSS	-1.083** (0.023)	-1.079** (0.029)	-1.659*** (0.007)	-1.092** (0.015)	-1.036** (0.026)	-1.526*** (0.010)
UE*REST	-2.524** (0.039)	-2.465** (0.045)	-2.384* (0.064)	-2.212** (0.039)	-2.199** (0.040)	-2.120* (0.062)
UE*MVE	-0.193 (0.129)	-0.201 (0.121)	-0.463** (0.034)	-0.136 (0.283)	-0.137 (0.289)	-0.340 (0.126)
UE*ABSUE	-26.188*** (0.000)	-28.316*** (0.000)	-41.414*** (0.000)	-21.724*** (0.001)	-23.578*** (0.001)	-33.953*** (0.000)
UE*EXPERT	-0.722** (0.038)	-0.691* (0.062)	-0.706 (0.153)	-0.728** (0.025)	-0.681** (0.045)	-0.605 (0.213)
UE*404b	1.231*** (0.007)	1.214** (0.011)	1.203** (0.042)	1.267*** (0.005)	1.267*** (0.007)	1.296** (0.024)
INDUSTRY	YES	YES	YES	YES	YES	YES

Table 14: Continued

	<u>U.S. clients</u>			<u>U.S. & Non U.S. clients</u>		
	(1) All earnings announcements	(2) Announcements within 45 days	(3) Announcements within 45 days & no SIC 6000	(4) All earnings announcements	(5) Announcements within 45 days	(6) Announcements within 45 days & no SIC 6000
N	3,459	3,371	2,827	3,585	3,486	2,906
R-squared	0.096	0.094	0.091	0.091	0.090	0.086
UE*D+UE*D*POST	0.285 (0.652)	0.485 (0.490)	0.445 (0.610)	0.290 (0.629)	0.530 (0.423)	0.379 (0.647)
UE*POST+UE*D*POST	1.488** (0.034)	1.618** (0.044)	1.646* (0.084)	1.491** (0.027)	1.618** (0.034)	1.644* (0.077)

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests. P-values are reported in brackets.

Refer to pages 26-27 for variable definitions. The dependent variable is the CAR for the (-2,+2) window.

Table 15: Sample - Auditor Change Analysis - PCAOB Sanction

Panel A: Sample Selection - All Big N Clients		All Fiscal year-ends	
Companies with Audit Analytics and Compustat information to calculate auditor changes from 2005 to 2009		32,169	
Less: Companies with nonconsecutive years		(666)	
Less: Companies with a non Big N auditor		(5,060)	
Less: Companies that appear only once in the sample		(1,045)	
Less: Companies with missing financial data		(10,359)	
Sample of U.S. and Non U.S. clients		15,039	
Less: Companies with a Big N auditor outside the U.S.		(2,651)	
Sample of U.S. clients		12,388	
Panel B: Detail of Deloitte clients and Other Big N clients - All fiscal year-ends			
	Deloitte Clients	Other Big N Clients	Total
Sample of U.S. and Non U.S. clients - All fiscal year ends	3,391	11,648	15,039
Less: Companies with a Big N auditor outside the U.S.	(601)	(2,050)	(2,651)
Sample of U.S. clients - All fiscal year ends	2,790	9,598	12,388
Panel C: Detail of U.S. and Non U.S. clients - December year-end only			
	Deloitte Clients	Other Big N Clients	Total
Sample of U.S. and Non U.S. clients - All fiscal year ends	3,391	11,648	15,039
Less: Companies with a non December year-end	(1,011)	(3,194)	(4,205)
Sample of U.S. and Non U.S. clients - December year-end only	2,380	8,454	10,834

Table 15: Continued

Panel D: Detail of U.S. clients - December year-end only			
	Deloitte Clients	Other Big N Clients	Total
Sample of U.S. clients - All fiscal year ends	2,790	9,598	12,388
Less: Companies with a non December year-end	(912)	(2,741)	(3,653)
Sample of U.S. clients - December year-end only	1,878	6,857	8,735
Panel E: Detail of Auditor Changes - All fiscal year-ends			
	Deloitte Clients	Other Big N Clients	Total
Client dismissals - U.S. clients*	145	497	642
Auditor resignations/Decline to stand for re-election - U.S. clients**	39	98	137
Total Auditor Changes - U.S. Clients	184	595	779
Client dismissals - Non U.S. clients***	28	103	131
Auditor resignations/Decline to stand for re-election - Non U.S. clients****	7	26	33
Total Auditor Changes - Non U.S. Clients	35	129	164

*For December year-end only clients there are 94 for Deloitte and 307 for other Big N

**For December year-end only clients there are 23 for Deloitte and 60 for other Big N

***For December year-end only clients there are 25 for Deloitte and 79 for other Big N

****For December year-end only clients there are 6 for Deloitte and 19 for other Big N

Table 16: Auditor Changes, Client Gains and Market Share – U.S. Clients

Panel A: Auditor market share (all fiscal year-ends)										
	DT	Market Share %	EY	Market Share %	KPMG	Market Share %	PWC	Market Share %	Total	
2004	1,187	23.5%	1,504	29.8%	1,059	21.0%	1,293	25.6%	5,043	100%
2005	1,142	24.3%	1,452	30.9%	938	20.0%	1,162	24.8%	4,694	100%
2006	1,099	24.8%	1,410	31.8%	872	19.7%	1,054	23.8%	4,435	100%
2007	1,051	25.2%	1,360	32.6%	796	19.1%	961	23.1%	4,168	100%
2008	1,005	25.2%	1,309	32.8%	750	18.8%	931	23.3%	3,995	100%
2009	974	24.9%	1,260	32.2%	742	19.0%	934	23.9%	3,910	100%
Total	6,458		8,295		5,157		6,335		26,245	

Panel B: All auditor changes (all fiscal year-ends)										
	DT	Freq. %	EY	Freq. %	KPMG	Freq. %	PWC	Freq. %	Total	
2005	79	24.8%	94	29.5%	26	8.2%	120	37.6%	319	100%
2006	64	23.3%	70	25.5%	26	9.5%	115	41.8%	275	100%
2007	45	27.4%	36	22.0%	19	11.6%	64	39.0%	164	100%
2008	42	35.0%	40	33.3%	16	13.3%	22	18.3%	120	100%
2009	45	33.6%	40	29.9%	15	11.2%	34	25.4%	134	100%
Total	275		280		102		355		1,012	

Panel C: All auditor changes (December year-end companies only)										
	DT	Freq. %	EY	Freq. %	KPMG	Freq. %	PWC	Freq. %	Total	
2005	50	20.0%	54	21.6%	68	27.2%	78	31.2%	250	100%
2006	32	17.7%	31	17.1%	44	24.3%	74	40.9%	181	100%
2007	29	23.8%	21	17.2%	35	28.7%	37	30.3%	122	100%
2008	29	31.2%	27	29.0%	23	24.7%	14	15.1%	93	100%
2009	38	34.2%	28	25.2%	22	19.8%	23	20.7%	111	100%
Total	178		161		192		226		757	

Table 16: Continued

Panel D: Client gains (all fiscal year-ends)										
	DT	Freq. %	EY	Freq. %	KPMG	Freq. %	PWC	Freq. %	Total	
2005	42	33.6%	36	28.8%	25	20.0%	22	17.6%	125	100%
2006	43	26.9%	61	38.1%	34	21.3%	22	13.8%	160	100%
2007	30	26.8%	43	38.4%	12	10.7%	27	24.1%	112	100%
2008	16	17.4%	36	39.1%	26	28.3%	14	15.2%	92	100%
2009	26	21.5%	30	24.8%	27	22.3%	38	31.4%	121	100%
Total	157		206		124		123		121	

Panel E: Auditor resignations/Decline to stand for re-election (all fiscal year-ends)										
	DT	Freq. %	EY	Freq. %	KPMG	Freq. %	PWC	Freq. %	Total	
2005	24	20.7%	27	23.3%	28	24.1%	37	31.9%	116	100.0%
2006	12	21.8%	18	32.7%	5	9.1%	20	36.4%	55	100.0%
2007	11	31.4%	8	22.9%	3	8.6%	13	37.1%	35	100.0%
2008	5	55.6%	2	22.2%	1	11.1%	1	11.1%	9	100.0%
2009	2	50.0%	0	0.0%	0	0.0%	2	50.0%	4	100.0%
Total	54		55		37		73		219	

The table presents descriptive information for the market share of each auditor, auditor changes and client gains during the sample period. The number of companies differs from what is reported in Table 15 because this table reflects auditor information before dropping companies that have missing financial information or that only appear one year in the sample period.

Table 17: Industry Frequency Distributions - U.S. clients (December year-end only)

Panel A: Industry detail by auditor (Fama-French 12)										
	DT	Freq. %	EY	Freq. %	KPMG	Freq. %	PWC	Freq. %	Total	Freq. %
Consumer Non-Durables	99	5.3%	59	2.1%	62	3.5%	98	4.3%	318	3.6%
Consumer Durables	36	1.9%	64	2.3%	26	1.5%	50	2.2%	176	2.0%
Manufacturing	211	11.2%	336	12.0%	126	7.1%	264	11.7%	937	10.7%
Energy	104	5.5%	143	5.1%	126	7.1%	113	5.0%	486	5.6%
Chemicals	72	3.8%	45	1.6%	48	2.7%	68	3.0%	233	2.7%
Business Equipment	274	14.6%	477	17.0%	334	18.7%	447	19.8%	1,532	17.5%
Telecommunications	80	4.3%	108	3.8%	101	5.7%	92	4.1%	381	4.4%
Utilities	175	9.3%	30	1.1%	44	2.5%	158	7.0%	407	4.7%
Shops	124	6.6%	192	6.8%	134	7.5%	124	5.5%	574	6.6%
Healthcare	166	8.8%	645	23.0%	212	11.9%	373	16.5%	1,396	16.0%
Finance	227	12.1%	273	9.7%	231	12.9%	223	9.9%	954	10.9%
Other	310	16.5%	436	15.5%	343	19.2%	252	11.1%	1,341	15.4%
Total	1,878	100%	2,808	100%	1,787	100%	2,262	100%	8,735	100%

Panel B: Client dismissals (by industry)				
	Change	Freq. %	No Change	Freq. %
Consumer Non-Durables	20	5.0%	298	3.6%
Consumer Durables	8	2.0%	166	2.0%
Manufacturing	38	9.5%	891	10.8%
Energy	19	4.7%	466	5.6%
Chemicals	6	1.5%	224	2.7%
Business Equipment	78	19.5%	1427	17.3%
Telecommunications	29	7.2%	350	4.2%
Utilities	12	3.0%	394	4.8%
Shops	24	6.0%	546	6.6%
Healthcare	62	15.5%	1325	16.1%
Finance	42	10.5%	902	10.9%
Other	63	15.7%	1262	15.3%
Total	401	100%	8,251	100%

Table 17: Continued

Panel C: Auditor resignations/ Decline to stand for re-election (by industry)		
	Change	Freq. %
Consumer Non-Durables	0	0.0%
Consumer Durables	2	2.4%
Manufacturing	8	9.6%
Energy	1	1.2%
Chemicals	3	3.6%
Business Equipment	27	32.5%
Telecommunications	2	2.4%
Utilities	1	1.2%
Shops	4	4.8%
Healthcare	9	10.8%
Finance	10	12.0%
Other	16	19.3%
Total	83	100%

The table presents descriptive information for the industry portfolio composition of each Big N firm as well as the number and frequency % of client dismissals and auditor resignations occurring within each industry grouping.

Table 18: Descriptive Statistics – U.S. Clients – December year-end

Descriptive statistics for firms dismissing their auditors								
	Client Dismissals			Client Dismissals			Test of Differences ^a	
	Deloitte Clients (N=94)			Other Big N Clients (N=307)			Mean (p-value)	Median (p-value)
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.		
GROWTH	0.166	0.050	0.550	0.069	0.022	0.450	0.120	0.216
ABSDACC	0.142	0.085	0.166	0.146	0.083	0.178	0.834	0.853
INVREC	0.225	0.168	0.207	0.236	0.178	0.206	0.641	0.546
ROA	(0.092)	0.012	0.369	(0.099)	0.003	0.321	0.862	0.580
LOSS	0.468	0.000	0.502	0.492	0.000	0.501	0.688	0.687
SIZE	5.373	5.147	1.924	5.265	5.284	1.812	0.620	0.768
M&A	0.277	0.000	0.450	0.241	0.000	0.428	0.487	0.486
MISMATCH	0.649	1.000	0.480	0.658	1.000	0.475	0.872	0.872
NEG_OPINION	0.585	1.000	0.495	0.541	1.000	0.499	0.450	0.450
ICWEAK	0.149	0.000	0.358	0.156	0.000	0.364	0.862	0.862
TENURE	0.277	0.000	0.450	0.160	0.000	0.367	0.023**	0.011**
EXPERT	0.245	0.000	0.432	0.362	0.000	0.481	0.036**	0.036**
INST	0.481	0.508	0.337	0.466	0.479	0.333	0.696	0.668
NEWFINC	0.567	0.142	1.121	0.538	0.127	1.065	0.820	0.947

^aTest of Differences present the p-values for mean (t-test) and median (Wilcoxon test) values.

Refer to pages 33-34 for variable definitions.

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests

Table 19: Auditor Change Analysis – PCAOB Sanction – December year-end clients

$$\text{SWITCH}_{it} = \beta_0 + \beta_1 D_{it-1} + \beta_2 \text{POST} + \beta_3 D_{it-1} * \text{POST} + \beta_4 \text{GROWTH}_{it-1} + \beta_5 \text{ABSDACC}_{it-1} + \beta_6 \text{INVREC}_{it-1} + \beta_7 \text{ROA}_{it-1} + \beta_8 \text{LOSS}_{it-1} + \beta_9 \text{SIZE}_{it-1} + \beta_{10} \text{M\&A}_{it-1} + \beta_{11} \text{MISMATCH}_{it-1} + \beta_{12} \text{NEG_OPINION}_{it-1} + \beta_{13} \text{ICWEAK}_{it-1} + \beta_{14} \text{TENURE}_{it-1} + \beta_{15} \text{EXPERT}_{it-1} + \beta_{16} \text{INST}_{it-1} + \beta_{17} \text{NEWFINC}_{it+2} + \beta_{18} \text{TREND} + \sum \delta_n \text{INDUSTRY}_n + \varepsilon_{it}$$

	<u>U.S. clients</u>			<u>U.S. & Non U.S. clients</u>		
	(1)	(2)	(3)	(4)	(5)	(6)
	All auditor changes	Dismissals only	Dismissals only & no SIC 6000	All Auditor Changes	Dismissals only	Dismissals only & no SIC 6000
Intercept	-0.644** (0.048)	-1.147*** (0.001)	-1.121*** (0.003)	-1.130*** (0.000)	-1.660*** (0.000)	-1.743*** (0.000)
D	0.058 (0.683)	-0.002 (0.992)	-0.044 (0.796)	0.024 (0.848)	-0.070 (0.626)	-0.120 (0.433)
POST	0.190 (0.396)	0.119 (0.619)	0.104 (0.678)	0.161 (0.409)	0.069 (0.740)	0.067 (0.759)
D*POST	0.451* (0.064)	0.428* (0.098)	0.465* (0.094)	0.433** (0.041)	0.516** (0.022)	0.572** (0.017)
GROWTH	-0.110 (0.293)	-0.306** (0.021)	-0.247* (0.065)	-0.116 (0.185)	-0.287*** (0.008)	-0.259** (0.019)
ABSDACC	0.393 (0.184)	0.401 (0.220)	0.454 (0.174)	0.449* (0.071)	0.502* (0.067)	0.563** (0.043)
INVREC	0.318 (0.256)	0.451 (0.134)	0.337 (0.329)	0.319 (0.209)	0.414 (0.135)	0.270 (0.391)
ROA	0.111 (0.642)	0.197 (0.454)	0.206 (0.452)	-0.139 (0.456)	0.072 (0.739)	0.076 (0.732)
LOSS	0.276** (0.031)	0.239* (0.087)	0.210 (0.158)	0.142 (0.208)	0.138 (0.264)	0.126 (0.336)
SIZE	-0.391*** (0.000)	-0.355*** (0.000)	-0.349*** (0.000)	-0.290*** (0.000)	-0.262*** (0.000)	-0.237*** (0.000)
M&A	0.143 (0.221)	0.152 (0.226)	0.169 (0.201)	0.113 (0.269)	0.134 (0.222)	0.142 (0.215)
MISMATCH	0.390*** (0.004)	0.412*** (0.004)	0.448*** (0.004)	0.361*** (0.003)	0.373*** (0.005)	0.435*** (0.002)
NEG_OPINION	0.275** (0.010)	0.185 (0.110)	0.194 (0.114)	0.249*** (0.008)	0.191* (0.058)	0.196* (0.064)
ICWEAK	1.163*** (0.000)	0.877*** (0.000)	0.752*** (0.000)	1.123*** (0.000)	0.835*** (0.000)	0.724*** (0.000)
TENURE	-0.322*** (0.010)	-0.364*** (0.009)	-0.440*** (0.003)	-0.164 (0.111)	-0.156 (0.168)	-0.190 (0.111)

Table 19: Continued

	<u>U.S. clients</u>			<u>U.S. & Non U.S. clients</u>		
	(1)	(2)	(3)	(4)	(5)	(6)
	All auditor changes	Dismissals only	Dismissals only & no SIC 6000	All Auditor Changes	Dismissals only	Dismissals only & no SIC 6000
EXPERT	0.282*** (0.008)	0.310*** (0.006)	0.279** (0.019)	0.189** (0.046)	0.185* (0.070)	0.155 (0.147)
INST	-0.219 (0.246)	-0.127 (0.531)	-0.062 (0.777)	-0.281* (0.080)	-0.161 (0.351)	-0.158 (0.384)
NEWFINC	0.071 (0.158)	0.117** (0.029)	0.110* (0.054)	0.035 (0.432)	0.088* (0.060)	0.081* (0.099)
TREND	-0.358*** (0.000)	-0.257*** (0.001)	-0.278*** (0.001)	-0.308*** (0.000)	-0.211*** (0.002)	-0.228*** (0.001)
INDUSTRY	YES	YES	YES	YES	YES	YES
N	8,735	8,652	7,708	10,834	10,726	9,648
Pseudo R ²	0.129	0.10	0.095	0.10	0.074	0.069
D + D*POST	0.509** (0.011)	0.426** (0.038)	0.421* (0.058)	0.457*** (0.007)	0.446** (0.011)	0.452** (0.015)
POST+ D*POST	0.641** (0.02)	0.546* (0.065)	0.569* (0.072)	0.594** (0.013)	0.585** (0.023)	0.639** (0.019)

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests.
P-values are reported in brackets.

Refer to pages 33-34 for variable definitions.

Table 20: Auditor Change Analysis – PCAOB Sanction - All fiscal year-end clients

$$\text{SWITCH}_{it} = \beta_0 + \beta_1 D_{it-1} + \beta_2 \text{POST} + \beta_3 D_{it-1} * \text{POST} + \beta_4 \text{GROWTH}_{it-1} + \beta_5 \text{ABSDACC}_{it-1} + \beta_6 \text{INVREC}_{it-1} + \beta_7 \text{ROA}_{it-1} + \beta_8 \text{LOSS}_{it-1} + \beta_9 \text{SIZE}_{it-1} + \beta_{10} \text{M\&A}_{it-1} + \beta_{11} \text{MISMATCH}_{it-1} + \beta_{12} \text{NEG_OPINION}_{it-1} + \beta_{13} \text{ICWEAK}_{it-1} + \beta_{14} \text{TENURE}_{it-1} + \beta_{15} \text{EXPERT}_{it-1} + \beta_{16} \text{INST}_{it-1} + \beta_{17} \text{NEWFINC}_{it+2} + \beta_{18} \text{TREND} + \sum \delta_n \text{INDUSTRY}_n + \varepsilon_{it}$$

	U.S. clients			U.S. & Non U.S. clients		
	(1) All auditor changes	(2) Dismissals only	(3) Dismissals only & no SIC 6000	(4) All auditor changes	(5) Dismissals only	(6) Dismissals only & no SIC 6000
Intercept	-0.528** (0.045)	-1.039*** (0.000)	-1.026*** (0.001)	-0.915*** (0.000)	-1.456*** (0.000)	-1.538*** (0.000)
D	0.006 (0.958)	-0.048 (0.695)	-0.073 (0.564)	-0.024 (0.807)	-0.104 (0.354)	-0.129 (0.265)
POST	-0.023 (0.897)	0.006 (0.973)	-0.014 (0.941)	-0.012 (0.939)	-0.039 (0.814)	-0.050 (0.770)
D*POST	0.333 (0.111)	0.290 (0.189)	0.288 (0.218)	0.319* (0.084)	0.376* (0.054)	0.394* (0.054)
GROWTH	-0.017 (0.832)	-0.141 (0.144)	-0.091 (0.347)	0.004 (0.950)	-0.099 (0.215)	-0.075 (0.352)
ABSDACC	0.405* (0.078)	0.302 (0.242)	0.349 (0.182)	0.354* (0.078)	0.280 (0.213)	0.332 (0.144)
INVREC	0.602*** (0.005)	0.711*** (0.002)	0.684*** (0.008)	0.580*** (0.004)	0.695*** (0.001)	0.674*** (0.005)
ROA	-0.007 (0.971)	0.069 (0.740)	0.091 (0.671)	-0.121 (0.424)	0.014 (0.937)	0.022 (0.899)
LOSS	0.299*** (0.003)	0.280** (0.011)	0.276** (0.017)	0.201** (0.027)	0.188* (0.059)	0.187* (0.072)
SIZE	-0.381*** (0.000)	-0.345*** (0.000)	-0.344*** (0.000)	-0.308*** (0.000)	-0.276*** (0.000)	-0.257*** (0.000)
M&A	0.108 (0.251)	0.148 (0.142)	0.158 (0.129)	0.085 (0.314)	0.119 (0.188)	0.127 (0.174)
MISMATCH	0.396*** (0.000)	0.473*** (0.000)	0.484*** (0.000)	0.391*** (0.000)	0.452*** (0.000)	0.486*** (0.000)
NEG_OPINION	0.196** (0.020)	0.114 (0.212)	0.121 (0.202)	0.230*** (0.002)	0.180** (0.027)	0.184** (0.030)
ICWEAK	1.076*** (0.000)	0.820*** (0.000)	0.742*** (0.000)	1.044*** (0.000)	0.792*** (0.000)	0.718*** (0.000)
TENURE	-0.271*** (0.006)	-0.312*** (0.005)	-0.345*** (0.003)	-0.193** (0.023)	-0.214** (0.022)	-0.235** (0.016)
EXPERT	0.201** (0.019)	0.228** (0.013)	0.204** (0.031)	0.159** (0.040)	0.150* (0.073)	0.123 (0.156)

Table 20: Continued

	U.S. clients			U.S. & Non U.S. clients		
	(1)	(2)	(3)	(4)	(5)	(6)
	All auditor changes	Dismissals only	Dismissals only & no SIC 6000	All Auditor Changes	Dismissals only	Dismissals only & no SIC 6000
INST	-0.433*** (0.005)	-0.382** (0.020)	-0.342** (0.047)	-0.394*** (0.003)	-0.325** (0.024)	-0.330** (0.027)
NEWFINC	0.053 (0.182)	0.098** (0.019)	0.097** (0.025)	0.017 (0.624)	0.065* (0.076)	0.063* (0.091)
TREND	-0.294*** (0.000)	-0.227*** (0.000)	-0.237*** (0.000)	-0.277*** (0.000)	-0.206*** (0.000)	-0.215*** (0.000)
INDUSTRY	YES	YES	YES	YES	YES	YES
N	12,388	12,251	11,187	15,039	14,869	13,627
Pseudo R ²	0.141	0.114	0.112	0.115	0.09	0.086
D + D*POST	0.339* (0.059)	0.242 (0.191)	0.215 (0.278)	0.295* (0.060)	0.272* (0.092)	0.265 (0.118)
POST+ D*POST	0.310 (0.168)	0.296 (0.220)	0.274 (0.281)	0.307 (0.124)	0.338 (0.115)	0.345 (0.122)

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests. P-values are reported in brackets.

Refer to pages 33-34 for variable definitions.

Table 21: December year-end clients – Highly litigated industries only

$$\text{SWITCH}_{it} = \beta_0 + \beta_1 D_{it-1} + \beta_2 \text{POST} + \beta_3 D_{it-1} * \text{POST} + \beta_4 \text{GROWTH}_{it-1} + \beta_5 \text{ABSDACC}_{it-1} + \beta_6 \text{SIZE}_{it-1} + \beta_7 \text{M\&A}_{it-1} + \beta_8 \text{ICWEAK}_{it-1} + \beta_9 \text{TENURE}_{it-1} + \beta_{10} \text{NEWFINC}_{it+2} + \beta_{11} \text{TREND} + \varepsilon_{it}$$

	<u>U.S. clients</u>		<u>U.S. & Non U.S. clients</u>	
	(1)	(2)	(3)	(4)
	All auditor changes	Dismissals only	All auditor changes	Dismissals only
Intercept	0.660* (0.093)	0.080 (0.850)	-0.061 (0.847)	-0.666* (0.053)
D	0.009 (0.972)	-0.109 (0.726)	-0.028 (0.907)	-0.228 (0.436)
POST	0.587 (0.169)	0.371 (0.410)	0.438 (0.232)	0.272 (0.484)
D*POST	1.009** (0.024)	1.032** (0.034)	0.975*** (0.010)	1.143*** (0.006)
GROWTH	-0.216 (0.191)	-0.471** (0.029)	-0.206 (0.150)	-0.363** (0.037)
ABSDACC	1.356*** (0.003)	1.285** (0.011)	1.351*** (0.001)	1.213*** (0.006)
SIZE	-0.539*** (0.000)	-0.481*** (0.000)	-0.430*** (0.000)	-0.370*** (0.000)
M&A	0.327* (0.093)	0.337 (0.118)	0.209 (0.224)	0.204 (0.282)
ICWEAK	1.194*** (0.000)	0.651** (0.022)	1.215*** (0.000)	0.709*** (0.007)
TENURE	-0.320 (0.145)	-0.247 (0.313)	-0.106 (0.556)	0.007 (0.973)
NEWFINC	-0.215* (0.078)	-0.142 (0.258)	-0.173* (0.089)	-0.110 (0.304)
TREND	-0.598*** (0.000)	-0.437*** (0.002)	-0.489*** (0.000)	-0.342*** (0.005)
N	2,526	2,493	3,186	3,145
Pseudo R ²	0.151	0.11	0.124	0.085
D + D*POST	1.018*** (0.005)	0.924** (0.014)	0.947*** (0.001)	0.915*** (0.003)
POST+ D*POST	1.596*** (0.002)	1.403** (0.013)	1.413*** (0.001)	1.416*** (0.004)

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests. P-values are reported in brackets. Refer to pages 33-34 for variable definitions.

Table 22: December year-end clients –Tenure greater than 3 years

$$\text{SWITCH}_{it} = \beta_0 + \beta_1 D_{it-1} + \beta_2 \text{POST} + \beta_3 D_{it-1} * \text{POST} + \beta_4 \text{GROWTH}_{it-1} + \beta_5 \text{ABSDACC}_{it-1} + \beta_6 \text{INVREC}_{it-1} + \beta_7 \text{ROA}_{it-1} + \beta_8 \text{LOSS}_{it-1} + \beta_9 \text{SIZE}_{it-1} + \beta_{10} \text{M\&A}_{it-1} + \beta_{11} \text{MISMATCH}_{it-1} + \beta_{12} \text{NEG_OPINION}_{it-1} + \beta_{13} \text{ICWEAK}_{it-1} + \beta_{14} \text{EXPERT}_{it-1} + \beta_{15} \text{INST}_{it-1} + \beta_{16} \text{NEWFINC}_{it+2} + \beta_{17} \text{TREND} + \sum \delta_n \text{INDUSTRY}_n + \varepsilon_{it}$$

	U.S. clients			U.S. & Non U.S. clients		
	(1) All auditor changes	(2) Dismissals only	(3) Dismissals only & no SIC 6000	(4) All auditor changes	(5) Dismissals only	(6) Dismissals only & no SIC 6000
Intercept	-0.954*** (0.009)	-1.373*** (0.000)	-1.257*** (0.002)	-1.379*** (0.000)	-1.747*** (0.000)	-1.765*** (0.000)
D	-0.156 (0.373)	-0.264 (0.182)	-0.294 (0.156)	-0.167 (0.300)	-0.328* (0.077)	-0.340* (0.079)
POST	0.133 (0.581)	0.043 (0.866)	0.013 (0.962)	0.196 (0.368)	0.062 (0.792)	0.047 (0.846)
D*POST	0.689** (0.012)	0.732** (0.013)	0.745** (0.017)	0.628** (0.012)	0.776*** (0.004)	0.776*** (0.006)
GROWTH	-0.039 (0.771)	-0.263 (0.125)	-0.220 (0.199)	-0.037 (0.755)	-0.279* (0.071)	-0.253 (0.102)
ABSDACC	0.597* (0.074)	0.554 (0.130)	0.670* (0.068)	0.613** (0.035)	0.593* (0.067)	0.698** (0.031)
INVREC	0.493 (0.118)	0.548 (0.106)	0.431 (0.260)	0.480 (0.101)	0.463 (0.147)	0.323 (0.366)
ROA	0.217 (0.431)	0.264 (0.384)	0.257 (0.408)	-0.071 (0.749)	0.225 (0.395)	0.231 (0.393)
LOSS	0.374*** (0.009)	0.302* (0.052)	0.241 (0.142)	0.238* (0.069)	0.202 (0.159)	0.164 (0.275)
SIZE	-0.342*** (0.000)	-0.314*** (0.000)	-0.330*** (0.000)	-0.266*** (0.000)	-0.253*** (0.000)	-0.246*** (0.000)
M&A	0.139 (0.294)	0.180 (0.201)	0.218 (0.135)	0.133 (0.267)	0.167 (0.192)	0.200 (0.130)
MISMATCH	0.416*** (0.006)	0.424*** (0.008)	0.394** (0.022)	0.434*** (0.002)	0.420*** (0.006)	0.432*** (0.007)
NEG_OPINION	0.413*** (0.001)	0.330** (0.011)	0.364*** (0.009)	0.370*** (0.001)	0.296** (0.012)	0.325*** (0.009)
ICWEAK	0.956*** (0.000)	0.740*** (0.000)	0.679*** (0.000)	1.007*** (0.000)	0.789*** (0.000)	0.726*** (0.000)
EXPERT	0.225* (0.059)	0.266** (0.035)	0.225* (0.088)	0.168 (0.126)	0.180 (0.123)	0.160 (0.192)
INST	-0.411* (0.052)	-0.327 (0.147)	-0.263 (0.270)	-0.417** (0.026)	-0.316 (0.114)	-0.304 (0.147)
NEWFINC	0.053 (0.414)	0.086 (0.204)	0.090 (0.204)	0.056 (0.312)	0.103* (0.080)	0.109* (0.074)

Table 22: Continued

	<u>U.S. clients</u>			<u>U.S. & Non U.S. clients</u>		
	(1)	(2)	(3)	(4)	(5)	(6)
	All auditor changes	Dismissals only	Dismissals only & no SIC 6000	All Auditor Changes	Dismissals only	Dismissals only & no SIC 6000
TREND	-0.340*** (0.000)	-0.242*** (0.005)	-0.247*** (0.006)	-0.327*** (0.000)	-0.222*** (0.005)	-0.228*** (0.006)
INDUSTRY	YES	YES	YES	YES	YES	YES
N	6,860	6,802	6,081	8,166	8,092	7,271
Pseudo R ²	0.124	0.098	0.094	0.107	0.083	0.079
D + D*POST	0.533** (0.012)	0.467** (0.034)	0.451* (0.055)	0.461** (0.016)	0.448** (0.023)	0.436** (0.037)
POST+ D*POST	0.822*** (0.008)	0.775** (0.020)	0.758** (0.031)	0.824*** (0.004)	0.838*** (0.006)	0.823*** (0.010)

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests.
P-values are reported in brackets.

Refer to pages 33-34 for variable definitions.

Table 23: Replication of market model results from Dee et al. (2011)

Panel A: Day (0)

	<u>Deloitte Clients</u>						<u>Other Big N Clients</u>						<u>Test of Differences^a</u>				
				Mean	Mean	Median	Wilcoxon				Mean	Mean	Median	Wilcoxon	Mean	Mean	Median
				(t-test)			signed				(t-test)			signed	(Equal	(Unequal	
	N	Neg. (%)	CAR	(p-value)	CAR	rank test		N	Neg. (%)	CAR	(p-value)	CAR	rank test	(p-value)	(p-value)	(p-value)	
Dee et al. (2011)	707	60.8%	-0.463%	<0.001***	-0.359%	<0.001***		2363	52.0%	0.042%	0.500	-0.066%	0.134	<0.001***		<0.001***	
U.S. only clients	563	59.9%	-0.354%	0.022**	-0.312%	0.000***		2104	52.3%	0.005%	0.940	-0.054%	0.062*	0.016**	0.033**	0.000***	
U.S. & Non U.S. Clients	701	59.9%	-0.313%	0.026**	-0.325%	0.000***		2520	52.3%	-0.035%	0.568	-0.113%	0.003***	0.041**	0.069*	0.001***	

Panel B: Day (0,+1)

	<u>Deloitte Clients</u>						<u>Other Big N Clients</u>						<u>Test of Differences</u>				
				Mean	Mean	Median	Wilcoxon				Mean	Mean	Median	Wilcoxon	Mean	Mean	Median
				(t-test)			signed				(t-test)			signed	(Equal	(Unequal	
	N	Neg. (%)	CAR	(p-value)	CAR	rank test		N	Neg. (%)	CAR	(p-value)	CAR	rank test	(p-value)	(p-value)	(p-value)	
Dee et al. (2011)	707	57.9%	-0.534%	<0.001***	-0.280%	0.001***	2363	53.8%	-0.172%	0.026**	-0.176%	<0.001***	0.022**				0.040**
U.S. only clients	563	57.1%	-0.441%	0.018**	-0.293%	0.000***	2104	53.9%	-0.067%	0.701	-0.206%	0.000***	0.287	0.144			0.105
U.S. & Non U.S. Clients	701	57.1%	0.410%	0.606	-0.305%	0.000***	2520	53.9%	-0.031%	0.837	-0.186%	0.001***	0.384	0.586			0.073*

Table 23: Continued

Panel C: Day (0,+2)															
<u>Deloitte Clients</u>							<u>Other Big N Clients</u>						<u>Test of Differences</u>		
	N	Neg. (%)	Mean	Mean (t-test)	Median	Wilcoxon signed rank test							Mean (Equal Variance)	Mean (Unequal Variance)	Median
			CAR	(p-value)	CAR		N	Neg. (%)	CAR	(p-value)	CAR	rank test	(p-value)	(p-value)	(p-value)
Dee et al. (2011)	707	60.1%	-0.833%	<0.001***	-0.502%	<0.001***	2363	54.2%	-0.376%	<0.001***	-0.235%	<0.001***	0.022**		0.014**
U.S. only clients	563	57.9%	-0.616%	0.021**	-0.479%	0.000***	2104	54.5%	-0.396%	0.032**	-0.376%	0.000***	0.564	0.495	0.349
U.S. & Non U.S. Clients	701	57.9%	0.292%	0.730	-0.442%	0.000***	2520	54.5%	-0.296%	0.065*	-0.298%	0.000***	0.276	0.495	0.224

^aTest of Differences present the p-values for mean (t-test) and median (Wilcoxon test) values.

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests

Abnormal returns are calculated using the standard market model methodology using 250 trading days prior to the event date (December 10, 20007 – Day 0) (excluding the 10 days before Day 0) and the CRSP value-weighted return (with dividends) to substitute for the market return. The abnormal return for firm i on day t (AR_{it}) is the difference between the firm's return and the estimated return; the cumulative abnormal return (CAR) is the sum of the abnormal returns over the event window.

Table 24: Replication of Schipper and Thompson analysis from Dee et al. (2011)

Schipper and Thompson (1983) regressions						
$R_{pt} = \alpha + \beta_p R_{mt} + \sum \delta_{pk} \text{Event}_{kt} + \varepsilon_{pt}$						
Panel A: Day (0)						
	Deloitte Clients			Other Big N Clients		
	Dee et al. (2011) Coefficient	U.S. only clients Coefficient	U.S. & Non U.S. Clients Coefficient	Dee et al. (2011) Coefficient	U.S. only clients Coefficient	U.S. & Non U.S. Clients Coefficient
	(t-statistic)	(t-statistic)	(t-statistic)	(t-statistic)	(t-statistic)	(t-statistic)
Constant	-0.0003 (-1.95)*	-0.0002 (-0.77)	0.0000 (-0.07)	-0.0004 (-2.27)**	-0.0004 (-2.27)**	-0.0003 (-1.61)
R_m	0.8662 (59.48)***	0.9390 (40.82)***	0.9697 (46.14)***	0.9374 (55.94)***	0.9315 (53.78)***	0.9565 (57.23)***
Event	-0.0045	-0.0036	-0.0031	-0.0004	0.0000	-0.0004
(t-statistic) - 1.) no robust standard errors/ 2.) robust standard errors	(-1.96)**	(-0.99)/(-14.35)***	(-0.94)/(-12.62)***	(-0.15)	(0.01)/(-0.11)	(-0.15)/(-1.6)
Adjusted R^2	0.93	0.87	0.92	0.93	0.92	0.93

Table 24: Continued

Panel B: Day (0,+1)						
	Deloitte Clients			Other Big N Clients		
	Dee et al. (2011) Coefficient (t-statistic)	U.S. only clients Coefficient (t-statistic)	U.S. & Non U.S. Clients Coefficient (t-statistic)	Dee et al. (2011) Coefficient (t-statistic)	U.S. only clients Coefficient (t-statistic)	U.S. & Non U.S. Clients Coefficient (t-statistic)
Constant	-0.0003 (-1.92)*	-0.0002 (-0.76)	0.0000 (-0.21)	-0.0004 (-2.22)**	-0.0004 (-2.25)**	-0.0003 (-1.62)
R_m	0.8630 (58.95)***	0.9364 (40.59)***	0.9704 (46.06)***	0.9369 (55.81)***	0.9314 (53.65)***	0.9564 (57.09)***
Event	-0.0025 (-1.52)	-0.0021 (-0.8)/(-1.84)*	0.0021 (0.89)/(0.56)	-0.0008 (-0.43)	-0.0002 (-0.11)/(-0.77)	0.000 (-0.00)/(-0.01)
Adjusted R²	0.93	0.87	0.90	0.93	0.92	0.93

Table 24: Continued

Panel C: Day (0,+2)						
	Deloitte Clients			Other Big N Clients		
	Dee et al. (2011) Coefficient (t-statistic)	U.S. only clients Coefficient (t-statistic)	U.S. & Non U.S. Clients Coefficient (t-statistic)	Dee et al. (2011) Coefficient (t-statistic)	U.S. only clients Coefficient (t-statistic)	U.S. & Non U.S. Clients Coefficient (t-statistic)
Constant	-0.0003 (-1.84)*	-0.0002 (-0.73)	0.0000 (-0.19)	-0.0004 (-2.16)**	-0.0004 (-2.17)**	-0.0003 (-1.55)
R_m	0.8635 (59.32)***	0.9369 (40.72)***	0.9693 (46.07)***	0.9368 (55.98)***	0.9309 (53.81)***	0.9559 (57.23)***
Event	-0.0027 (-2.01)**	-0.0020 (-0.94)/(-2.56)**	0.0010 (0.52)/(0.38)	-0.0012 (-0.80)	-0.0013 (-0.8)/(-1.45)	-0.001 (-0.59)/(-1.17)
Adjusted R²	0.93	0.87	0.90	0.93	0.92	0.93

Observations are the daily portfolio of the Deloitte clients or the other Big N clients for the 251 trading days from January 1, 2007 to December 31, 2007.

R_{pt} = equally weighted portfolio return for all clients of Deloitte (or all other Big N clients) on day t

R_{mt} = market return on day t (proxied by CRSP value-weighted index)

Event_{kt} = a dummy variable equal to one for the event window and zero for all other days in the estimation period. The event date is December 10, 2007 (Day 0); the day of the release of the PCAOB sanction.

*, **, *** Significantly different from zero at the 10%, 5%, or 1% level, respectively, using two-tail tests.

VITA

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