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# FEES, GOING CONCERN OPINIONS AND AUDITOR DISMISSALS: AN EMPIRICAL ASSESSMENT

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FEEES, GOING CONCERN OPINIONS AND AUDITOR DISMISSALS:  
AN EMPIRICAL ASSESSMENT

By  
Frances A. Stott

A Dissertation

Presented in Partial Fulfillment of Requirements for the  
Degree of  
Doctor of Business Administration  
In the  
Coles College of Business  
Kennesaw State University

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Frances A. Stott  
2017

SIGNATURE PAGE

## DEDICATION

To my family and friends who supported me during the pursuit of my dream to finish my education. Your constant support and pushing kept me on course.

This dissertation is dedicated to:

My husband and rock – David Stott

My children and cheerleaders – Randi and Michael

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## ABSTRACT

### FEES, GOING CONCERN OPINIONS AND AUDITOR DISMISSALS: AN EMPIRICAL ASSESSMENT

By

Frances A. Stott

Auditors issue going concern modified opinions when there is substantial doubt about the company's ability to continue its operations into the foreseeable future. Companies frequently respond to this type of audit opinion by changing auditors. Critics, such as the SEC, suggest that this may be done in order to opinion shop (i.e., find an auditor who is likely to issue a more favorable unqualified opinion). However, prior research has indicated that opinion shopping may not be effective. Since firms receiving a going concern modified opinion are clearly under significant financial distress, the effect a change in auditor has on subsequent fees (both audit and non-audit services (hereafter NAS)) after the issuance of such an opinion is an important question. If there is an increase in fees that result from changing auditors after a going concern modified opinion, this suggests there may be other motivations for changing auditors after a going concern modified opinion.

The primary purpose of this study was to derive possible explanations why firms dismiss their auditors after a going concern modified opinion. To accomplish this, I examined five research questions in the post-SOX period. First, I examined the relation between the issuance of a first-time going concern modified opinion and audit and NAS

fees. Second, I examined the relation between the issuance of a first-time going concern modified opinion and auditor dismissal. Third, I examined the relation between auditor dismissal and audit and NAS fees. Fourth, I examined if there was a moderating effect of the issuance of a going concern modified opinion on the relation between auditor dismissals and audit and NAS fees. Finally, I examined why firms might purchase additional NAS from their new auditor after the issuance of a going concern modified opinion.

Using multivariate regression analysis and a sample of 48,414 firm-year observations for the period 2004 – 2014 (sample included all publicly traded U.S. companies except financial institutions and utilities), my results indicated that there was a significant relation between the issuance of a first-time GCMO and audit fees. Contrary to expectations however, this relation was found to be negative indicating that these distressed firms actually incurred lower audit fees after receiving a GCMO. No significant relationship was found between the issuance of a first-time GCMO and NAS fees. In addition, consistent with prior literature, a positive relationship was found between a first-time GCMO and auditor dismissal.

While a significant negative relationship was found between auditor dismissal and both audit and NAS fees, that relationship was no longer significant when a GCMO was present suggesting that firms who dismiss their auditors after a first-time GCMO do not experience a decrease in either audit fees or NAS fees. Furthermore, the evidence indicates that NAS were not purchased to compensate auditors for any additional risk or to compensate the auditor for lowballing, and NAS were not purchased in order to receive a better audit opinion.



Keywords: Auditor dismissals, going concern, opinion shopping, audit fees, non-audit service fees

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## CHAPTER 1 - INTRODUCTION

Many studies have examined the effect of issuing a going concern modified opinion on audit fees, the effect of issuing a going concern modified opinion on changing auditors, and the effect of a change in auditor on both audit and non-audit service (hereafter NAS) fees. However, no studies have examined the extent to which the issuance of a going concern opinion moderates the relation between a change in auditor and audit fees. Current research on the effect of issuing a going concern modified opinion on audit and NAS fees has produced varying results. The results in these studies generally indicate a positive relation between the issuance of a going concern modified opinion and audit fees while the relation between the issuance of a going concern modified opinion and NAS fees has not been specifically examined in the extant literature.<sup>1</sup> Additionally, previous studies have consistently indicated a positive relationship between the issuance of a going concern modified opinion and a change in auditor while the effect of changing auditors on audit fees has also varied depending on the variables being studied, the theories being examined and the time period of each study. Once again, few studies have examined the effect of a change in auditor on NAS fees.<sup>2</sup> Prior literature also suggests that opinion shopping after a going concern modified opinion is not successful indicating there are other possible reasons why firms change auditors after receiving a going concern modified opinion.

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<sup>1</sup> Some prior NAS studies have included GCMO as a control variable, but have not done any detailed analysis of the impact of this variable.

<sup>2</sup> Once again, the few NAS studies that used auditor changes used it as a control variable and found no significant relationship.

A required part of the audit process includes the auditor assessing whether the company will be able to continue to operate as a going concern. In other words, is the overall financial condition of the company sound enough for the company to continue its operations for a reasonable period of time?<sup>3</sup> If the auditor does not believe the company has the ability to continue as a going concern, the auditors must add an explanatory paragraph to their audit report explaining that the auditor questions the future viability of the company. This is referred to as a going concern modified opinion (hereafter GCMO).

When a company receives a GCMO, there is a tendency to change auditors (Ettredge, Li & Scholz, 2007). Changing auditors is not a new phenomenon – companies have been switching audit firms since the inception of independent public accounting audits in the United States for a variety of reasons including the desire for a different audit opinion. The SEC started addressing the issue of opinion shopping with a request for comments in July 1985 (SEC, 1985).<sup>4</sup> Prior research has provided evidence that opinion shopping is unlikely to be successful which suggests there are other explanations for why firms change auditors after a GCMO (e.g., Chow & Rice, 1982; Krishnan & Stephens, 1995).

Assuming the accuracy of a first-time GCMO, the firm receiving a first-time GCMO is experiencing significant financial distress, which poses higher risks for the current or new auditor. Prior research indicates that firms in distress that receive a GCMO may experience a change in audit fees whether they change auditors or not (e.g.,

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<sup>3</sup> Generally Accepted Auditing Standards state that a reasonable period of time should not extend beyond one year after the date of the financial statements being audited (AU 341.02). The new GAAP standard discussed below (Subtopic 205-40) specifically requires an entity's management to evaluate the entity's ability to continue as a going concern for one year after the date the financial statements are issued.

<sup>4</sup> Prior research defines opinion shopping as shopping for a better opinion from a different audit firm after receiving a less than desirable audit opinion from the current auditor (Krishnan & Stephens, 1995).

Munsif, Raghunandan, Rama & Singhvi, 2011; Raghunandan & Rama, 2006). In addition, a change in NAS fees could also occur. Overall, if there is a change in audit and NAS fees that result from auditor dismissal after a GCMO, the motivation for the auditor dismissal becomes even more perplexing. My study has attempted to provide evidence on this complex story through an analysis of not just audit fees but also NAS fees.

As noted, the impact of the issuance of a GCMO on NAS fees has not been examined in the extant literature. Three plausible explanations are examined in this study requiring empirical investigation to clarify and fill the gap in the literature on the dynamics underlying GCMOs, auditor dismissals, and fee effects. First, NAS fees could decrease when a client changes auditor as NAS are often not purchased in the initial year of the auditor engagement. Second, NAS fees could increase if the client seeks additional services from their audit firm to address the issues that caused their going concern problems. Finally, NAS fees could also increase when there is a change in auditor if the company is attempting to “bribe” the new auditor for a better opinion with additional NAS fees.

Many studies examined the relation between NAS fees and the issuance of a GCMO (e.g., Schneider, Church & Ely, 2006; Carson et al., 2013; Sharma, 2014). However, the existing research in this area focused on the issuance of a GCMO as the dependent variable. While there are several studies that examine the effect of the issuance of a GCMO on audit fees, there have been no studies that specifically examine the effect of the issuance of a GCMO on NAS fees. Without empirical evidence, we do not know whether the resulting relation is positive or negative. One argument would be

that the issuance of a GCMO would have a positive effect on NAS fees if a company was seeking additional help from their auditors to address the conditions that resulted in their GCMO or maybe the company increases the amount of NAS fees to gain a more favorable audit opinion in the future. As noted above, companies receiving a GCMO are by assumption in financial distress. Therefore, an alternative explanation might be that the company would reduce their NAS in order to reduce overall costs, which would result in a negative relation between the issuance of a GCMO and NAS fees.

I started by examining the relations between GCMOs, audit and NAS fees and auditor dismissals in the post-SOX period. Prior research has primarily examined these relations in a pre-SOX environment. However, after SOX, auditors were not permitted to perform many NAS. In addition, there are legal requirements imposed by SOX as well as litigation risks executives now face, suggesting that the results of prior studies in the pre-SOX period may not be generalizable or hold in the post-SOX period. Due to the unprecedented changes in the governance of the audit environment, findings in pre-SOX studies should be re-examined (Carson et al., 2013; Sharma, 2014). In fact, other areas of auditing research have done this and found results that were either conflicting or consistent, depending on the issue (e.g., Ferguson, Lam & Ma, 2017; Griffin, Lont & Sun, 2017). Furthermore, the concept of differentiated replication has also been called for in recent studies (e.g., Carcello, Hermanson & Ye, 2011; Dyckman & Zeff, 2014; DeFond & Zhang, 2015). My analysis of these relations in a post-SOX environment provide evidence on whether findings in prior research are empirically generalizable by replicating and extending these studies using different datasets and research design, thus providing differentiated replication.



Based on a sample of 48,414 firm-year observations for the period 2004 – 2014, I first examined the relation between the issuance of a GCMO and the change in audit and NAS fees. My results indicated that there was a significant relation between the issuance of a first-time GCMO and audit fees. Contrary to expectations however, a negative relation between the issuance of a GCMO and the change in audit fees was found indicating that these distressed firms actually incurred lower audit fees after receiving a GCMO. No significant relationship was found between the issuance of a first-time GCMO and the change in NAS fees.

I then examined the relation between the issuance of a GCMO and auditor dismissals. Consistent with prior literature, a positive relationship was found between a first-time GCMO and auditor dismissal. Next, I examined the relation between auditor dismissals and the change in audit and NAS fees. A significant negative relationship was found between auditor dismissals and the change in both audit and NAS fees

As noted above, assuming the accuracy of a first-time GCMO, firms receiving a GCMO are experiencing significant financial distress and if changing auditors is not a costless event, the question as to what effect a change in auditor has on subsequent fees (both audit and NAS) after the issuance of a GCMO is an important one to be addressed. Therefore, my next analysis examined the effect on audit and NAS fees when a company dismisses their auditor after the issuance of a GCMO in an attempt to provide evidence on why companies may take such action. To examine these research questions, I used regression analysis with either the change in audit or NAS fees as the dependent variable with dummy variables for GCMO, auditor dismissal and an interaction term between GCMO and auditor dismissal as explanatory variables. While a significant negative

relationship was found between auditor dismissal and the change in both audit and NAS fees, that relationship was no longer significant when a GCMO was present suggesting that firms who dismiss their auditors after a first-time GCMO do not experience decreases in either audit fees or NAS fees.

My final analysis investigated other potential explanations of why companies purchase additional NAS after the issuance of a GCMO – the potential explanations included compensating the auditor for additional risk due to the GCMO, compensating the auditor for lowballing their audit fees and compensating the new auditor in order to receive a more favorable opinion. I provide evidence that NAS were not purchased to compensate auditors for any additional risk or to compensate the auditors for lowballing and NAS were not purchased in order to receive a better audit opinion.

The topic of this dissertation is timely given recent developments. Historically, identifying going concern issues have been the sole responsibility of the auditor and all of the standards related to this issue have been in Generally Accepted Auditing Standards (GAAS). However, this is no longer the case. Going concern issues have recently become a topic of the Financial Accounting Standards Board (FASB) as well with the issuance of the final version of the new standard, Presentation of Financial Statements – Going Concern (Subtopic 205-40), in August 2014. This new standard affects GAAP and for the first time makes company management responsible for determining if their company is having going concern issues. This is no longer just an audit issue. In addition, Financial Executives International (FEI) discussed an issue in their daily report as to the controversial situation that could occur between differences in management's perspective and the auditor's perspective due to the accounting standard using a

probability lens while the auditing standards use a substantial doubt lens (Orenstein, 2014).

This study has several implications for prior research as well as for auditors and policy makers and provides evidence that may help to answer some of the questions that prior literature has not sufficiently addressed. For example, prior literature indicated that the primary reason firms receiving a going concern opinion seek to change auditors is to receive a different opinion (i.e., opinion shopping) and this research has indicated that opinion shopping simply does not work – companies tend to receive the same audit opinion even after changing auditors (e.g., Chow & Rice, 1982; Krishnan & Stephens, 1995; Geiger, Raghunandan & Rama, 1998). If opinion shopping does not work, then what would motivate a company to change auditors? The findings in this study indicate when firms change auditors, audit fees generally decrease. However, when an auditor change happens after the issuance of a first-time GCMO, both audit and NAS fees do not exhibit decreases. Given the gap in the extant literature focusing on the rationale for why firms switch auditors even when they do not receive a favorable opinion, and the recent focus on going concern issues by the FASB, the results of this study provide a valuable contribution to the academic literature, the profession, and regulators on this topic. My findings suggest there are other reasons beyond simply fees or the search for a more favorable opinion as to why firms with a first-time GCMO change auditors that future research can address. For example, these firms may switch auditors to obtain a higher level of service from their auditor, to send a signal to the market and/or they may make the switch to access NAS services to turn the company around (Williams, 1988; Whisenant, 2003). A deeper dive into the qualitative information provided by

management in their annual reports on how the company is working their way through the GCMO situation, including their choice of outside professionals, might be in order.

The study also has practical implications by providing insight into the financial cost of changing auditors if the firm has received a GCMO by extending the current research to examine alternative explanations for opinion shopping by altering the design of prior studies such as examining how fees change when a company who received a going concern opinion changes auditors and how the audit opinion changes with the new auditor given the change in fees. This study also has implications for policy makers. The Sarbanes-Oxley Act (2002) specifically defines the types of NAS public accounting firms are not allowed to provide to their audit clients. The results in this study do not indicate any relation between opinion shopping and NAS, thereby signaling that additional limitations on the types of services public accountants provide may not be necessary.

The remainder of this paper is organized as follows: Chapter 2 reviews the existing literature related to audit/NAS fees, auditor dismissals and the issuance of GCMOs and the development of my research hypotheses. Chapter 3 then discusses the sample selection process, the data sources used and the empirical models and variables chosen to test the hypotheses. Chapter 4 presents the results from my empirical tests. Chapter 5 then summarizes these results and addresses potential limitations as well as the overall contributions made by this study.

## CHAPTER 2 - LITERATURE REVIEW

The passage of the Sarbanes Oxley Act of 2002 has had a profound impact on audit and NAS fees over the past decade. The research to date has been extensive regarding the impact of this legislation on both direct audit work specific to SOX (e.g., Section 404 work) and the overall increase in audit work needing to be performed. However, there has been no research that specifically examined the fee effect on firms that change auditors after the issuance of a GCMO in the post-SOX period.

A GCMO is issued to companies when the auditor has substantial doubt about the company's ability to continue as a going concern. Some of the indicators of substantial doubt could include recurring operating losses, defaulting on loan repayment, labor difficulties, legal proceedings, loss of a patent or other intellectual property, or even a natural catastrophe (FASB, 2014). Assuming the accuracy of a first-time GCMO, when a company receives a GCMO, they are experiencing financial distress. Receiving this type of audit opinion could have an additional financial impact on the company in the form of decreased borrowing ability, substantial loss of business or even the self-fulfilling prophecy of bankruptcy (Schwartz & Menon, 1985; Geiger, Raghunandan, & Rama, 1998). The discussion that follows first details some of the basic research on the determinants of audit and NAS fees and then specifically the impact on audit and NAS fees when a GCMO is issued; the impact of a GCMO being issued on auditor dismissals; the impact of changing auditors on both audit and NAS fees; and other potential

explanations of why companies purchase additional NAS after the issuance of a going concern opinion.

## 2.1 Determinants of audit and NAS fees

### *Audit fees*

A considerable amount of research has been done to identify the determinants related to audit fees. One area of research that has received significant attention relates to internal controls – specifically the relation between internal control deficiencies and audit fees. Other determinants that have been identified by prior research include the probability of bankruptcy, firm size, managerial turnover and financial restatements.

Raghunandan and Rama (2006) examined the effect SOX Section 404 disclosures had on audit fees. Their sample was taken from firms that filed their Section 404 reports by May 15, 2005. In order to control for industry effects on audit fees, the authors limited their sample to the manufacturing industry and then analyzed the increase in audit fees from 2003 to 2004. They found that median audit fees increased 128% from 2003 to 2004. For firms that reported an internal control weakness in their report, their audit fees were 43% higher than those firms without a reported internal control weakness.

Hogan and Wilkins (2008) examined the types of risks (inherent, control, and detection) that affect overall audit risk which in turn drives audit fees due to the additional substantive testing necessary to detect those risks. The authors examined the period from November 2003 to November 2004 and found that audit fees were 35% higher for firms that disclosed internal control deficiencies compared to those that did not have any internal control deficiency disclosures. They further found that as these

disclosed internal control deficiencies increased in severity, audit fees increased indicating that auditors expended more effort due to the presence of these deficiencies.

Hoitash, Hoitash, and Bedard (2008) also found that there was an increase in audit fees as material internal control weaknesses were disclosed. However, when observing the effect of significant deficiencies, there was no statistically significant association with audit fees. This study examined the period from November 2004 to October 2005. The authors also addressed the type of internal control problem (general vs. account-specific). For general internal control issues, there was an association of higher fees related to disclosure, the control environment, and human resource related problems. For account-specific control issues, higher fees were associated with problems related to revenue recognition, accruals, and leases. Munsif, Raghunandan, Rama, and Singhvi (2011) examined audit fees in companies who remediated their internal control weaknesses from 2004 to 2008. Once the company corrected the weaknesses, their audit fees were lower than the firms who continued to have weaknesses, however, these companies continued to have higher fees than those companies who never reported any weaknesses. Over the following two years, these fees continued to decrease, but still were higher than those companies without reported weaknesses indicating that there was a perceived risk associated with previous internal control weaknesses.

Krishnan, Krishnan, and Song (2011) examined the effect of the updated auditing standard on internal control weaknesses. Auditing Standard No. 5 (AS5) was implemented to increase the efficiency of auditing internal control weaknesses, as opposed to Auditing Standard No. 2 (AS2), which caused over-auditing which subsequently led to higher audit fees. This study examined the period from 2006 to 2008

– the last year under AS2 and the first two years under AS5. The results showed a statistically significant decline in audit fees in the first year of implementation of AS5. There was not a statistically significant decline in year two of AS5. The firms that had a material internal control weakness under AS5, but not under AS2, paid a fee premium of 15% over those firms that did not have a weakness, as opposed to firms under AS2, who paid a 42% fee premium over firms without a weakness. Wang and Zhou (2012) examined how AS5 affected audit fees from 2006 to 2008 while maintaining a quality audit as measured by abnormal accruals and the probability of meeting or exceeding analysts' forecasts. The findings in their study confirmed, as did the others above, that audit fees did decline after implementing AS5 while not reducing audit quality.

Dickens, Higgs and Skantz (2008) took a different approach in determining how audit fees are priced post-SOX. Using a qualitative approach, they interviewed 27 partners and senior managers from different firms in different cities during the summer of 2006. As with audit fee pricing before SOX, there were three primary factors identified – estimated time needed to perform the audit, personnel and skill level required to perform the audit, and perceived risk and rewards of performing the audit. The findings in this study indicated that after SOX, firms simply did not accept the work if the risk was too high. Specifically, sixty-seven variables were identified which contributed to audit pricing. Of those, the most important variable (based on mean) was the number of material weaknesses identified in internal controls followed by perceived risk of bankruptcy. These findings are consistent with several of the archival studies discussed below (e.g., Desir, Casterella, & Kokina, 2014; Munsif et al., 2011; Sankaraguruswamy, Whisenant, & Willenborg, 2012; Whisenant, Sankaraguruswamy, & Raghunandan,



2003). The two least important variables identified in this study were the company's return on assets and the company's ratio of book value to market value. These findings are not consistent with the archival studies discussed below – book to market value and return on assets were significantly related to audit fees in several studies (e.g., Ashbaugh, LaFond, & Mayhew, 2003; Huang, Parker, Yan, & Lin, 2014; Raghunandan & Rama, 2006; Whisenant et al., 2003).

Other studies examined the role of accounting firm size and managerial turnover. Ghosh and Pawlewicz (2009) found post-SOX that audit fees increased in general from 2006 to 2008 regardless of the size of the audit firm. The Big 4 audit premium was compounded after SOX as the fees increased 42% more for Big 4 auditors than for non-Big 4 auditors. This study also found that the Big 4 no longer offered discounts on initial audit engagements while smaller firms still continued to offer these discounts. Feldmann, Read, and Abdolmohammadi (2009) examined whether financial restatements from 2003 to 2005 increased audit fees and if a company's turnover in management moderated the increase in audit fees. An increase in audit fees was positive and significant indicating that there was an increase in audit fees for companies that had financial restatements. Determining whether a change in management would moderate the increase in audit fees, the authors examined the effect when there was a change in CEO and CFO. The findings in this study indicated that a new CEO was not significant but a new CFO was negative and highly significant. The authors concluded that restatement companies with a new CFO had lower audit fees because organizational legitimacy had been restored thus lowering the auditors' assessment of risk.

As detailed above, there has been a significant amount of research regarding the effects of varying aspects of the audit on audit fees.<sup>5</sup> However, to date, there has been little research regarding the change in audit fees in subsequent years after a significant event (such as the issuance of a GCMO).<sup>6</sup>

### *NAS fees*

NAS fees have long been a topic of controversy and have been under scrutiny due to their perceived negative impact on auditor independence. However, some have argued that NAS fees also have a positive effect due to knowledge spillover (Knechel & Sharma, 2012). This term is defined as a type of insider information gained in the course of a NAS engagement that allows the audit firm to provide a more efficient audit and/or a better quality audit opinion. NAS are the services provided to clients in addition to the performance of an audit. These can be in the form of tax compliance, tax consulting services, and certain advisory services. In 2000, the SEC required the amount of NAS fees paid to a firm's auditor to be disclosed (SEC, 2000). In 2002, SOX reduced the number of NAS that the audit firm could provide. The main intent of SOX was to prevent an auditor from providing services that would impair or give the impression of an impairment of their independence. These primarily include providing bookkeeping services and management type services.<sup>7</sup> Prior studies have examined the relation

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<sup>5</sup> Specific studies regarding how audit fees are affected by a GCMO are discussed in the GCMO research section below.

<sup>6</sup> Feldmann et al. (2009) and Ettredge et al. (2007) studied the change in audit fees, however, their examinations were very narrow in scope. Feldmann examined the change in audit fees when financial restatements occurred and Ettredge examined these fees in the pre-SOX versus post-SOX environment. Both of these studies are discussed in more detail below.

<sup>7</sup> SOX defines these types of services to include financial systems design and implementation; appraisal or valuation services, fairness opinions, or contribution-in-kind reports; actuarial services; internal audit outsourcing services; management functions or human resources; broker or dealer, investment adviser,

between NAS fees and audit pricing, the knowledge spillover associated with providing NAS, whether NAS fees impair auditor independence, the effect of financial restatements on NAS fees and the effect of different audit committee characteristics on NAS fees.

Whisenant, Sankaraguruswamy and Raghunandan (2003) examined the timing of the determination of audit and NAS fees in the year 2000. Previous studies used single-equations models, which estimated one of the fees with the other fee as an independent variable and generally showed they were associated with one another. This study used a simultaneous-equation model to determine if audit and NAS fees were determined concurrently. Their findings did not support the hypothesis that NAS fees directly influenced audit fees, however, the findings did reinforce the implication of the simultaneous determination of audit and NAS fees.

Krishnan and Yu (2010) extended the study by Whisenant et al. (2003) by using a simultaneous equation to determine if NAS fees were a predictor of audit fees and vice versa where NAS fees was the dependent variable in one model and audit fees was the dependent variable in another model. Whisenant et al. used a sample from just one year (2000) while Krishnan and Yu used a sample over multiple years (2000 – 2006). The authors found a negative significant relation between audit and NAS fees for both models indicating that knowledge spillover occurred from audit to NAS and vice versa. Krishnan and Yu also found that significant determinants of NAS fees included audit fees, total assets, number of segments, number of employees, inventory/receivables, initial audit, Big 4, auditor tenure, foreign operations, return volatility, GCMO, probability of bankruptcy, stock return, and new financing.

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or investment banking services; legal services and expert services unrelated to the audit; and any other service that the Board determines, by regulation, is impermissible (Section 201, SOX 2002).

Antle, Gordon, Narayanamoorthy and Zhou (2006) examined the relation between fees paid to auditors (both audit and NAS) and abnormal accruals. They used a sample from the United Kingdom from 1994 through 2000 and the United States for 2000 due to fee disclosure not being mandatory in the US until 2000. The authors found a positive significant relation between NAS fees and abnormal accruals indicating that NAS fees were higher when abnormal accruals increased. Significant variables used to determine NAS fees included abnormal accruals, audit fees, beginning total assets, inventory, income taxes, and if the company had experienced a loss.

Raghunandan, Read and Whisenant (2003) studied firms that restated their financial statements and whether these firms paid higher NAS fees. In comparing firms that restated their financial statements before June 30, 2002 for fiscal years 2000 and 2001 to a control sample of non-restating firms for the same time period, the authors found no significant difference in the amount of NAS and total fees paid.

Ghosh and Pawlewicz (2009) examined the impact of SOX on fees paid to auditors including NAS fees from 2000-2005. The average NAS fees paid for the pre-SOX sample period was \$1,259,634 and decreased to \$671,364 for the post-SOX sample period. The reduction in NAS fees was experienced more by Big 4 auditors, but non-Big 4 auditors also experienced a decline. The significant control variables used to determine NAS fees were auditor type, total assets, ratio of current assets to total assets, current ratio, ratio of inventory to total assets, ratio of receivables to total assets, profitability, operating loss, merger activity, number of segments, and the ratio of foreign sales to total sales. When the authors restricted the sample to observations that contained data for all six years, whether the opinion was unqualified or not became significant and positive.

Although there has been research on the determinants of NAS fees, there has been little research regarding the change in NAS fees in subsequent years after a significant event such as the issuance of a GCMO, which is consistent with the research on the determinants of audit fees discussed above.

## 2.2 The impact of GCMOs on audit and NAS fees

There has been a significant amount of research on the impact of the issuance of a GCMO on audit fees. Studies have examined the effect of a GCMO and auditor dismissals and resignations on audit fees. There have also been studies related to the effect of internal control weaknesses on audit fees when a GCMO is issued. In addition, the effect of SOX on this relation has been examined as well as the type of audit firm involved in the change (i.e., Big-N and Non Big-N). However, there has been virtually no research on the impact of the issuance of a GCMO on NAS fees. As noted in the first chapter, a few prior NAS fee studies included GCMO as a control variable, but none of these studies did any detailed analysis related to the issuance of a GCMO.

In the post-SOX environment, the auditor is not permitted to perform many NAS. There are new legal requirements for appointing an auditor, which now falls under the purview of the audit committee (AC). The scope and fees paid to the auditor for audit services must be pre-approved by the AC as well as NAS fees if they comprise more than 5% of total fees paid to the auditor. In addition to other legal requirements imposed by SOX and litigation risk facing executives, directors and auditors, the results of prior studies in the pre-SOX period may not be generalizable or hold in the post-SOX period. Due to the unprecedented changes in the governance of the audit environment, it is imperative to re-examine findings in pre-SOX studies. There are many studies that re-

examine pre-SOX findings in other areas of auditing research and the results observed are both conflicting and consistent, depending on the issue. In addition, the concept of differentiated replication has also been called for in recent studies (e.g., Carcello, Hermanson & Ye; 2011; DeFond & Zhang, 2015). Differentiated replication provides evidence that findings in previous studies are empirically generalizable by replicating these studies using different datasets.

Munsif et al. (2011) studied the effect of remediating internal control weaknesses on audit fees from 2004 to 2008. This study found a positive relation between the issuance of a GCMO and audit fees. Raghunandan and Rama (2006) examined the impact on audit fees of internal control weaknesses identified in 2003 and 2004 in the manufacturing industry. The results of this study did not indicate a significant relation between GCMOs and fees in 2003, but did find a positive significant relation in 2004. The authors indicated that this mixed result could be due to larger risk premiums related to a distressed company or additional audit work that may be necessary due to a company being under financial distress.

Sankaraguruswamy, Whisenant, and Willenborg (2012) studied companies who changed auditors from one Big-N firm to another between 2000 and 2007. This study examined the effect of several different variables on audit fees over three-year time horizons. The issuance of a GCMO was only significantly positively related to audit fees in two of these three-year periods – 2004-2006 and 2005-2007. Wang and Zhou (2012) examined how the implementation of a new standard to increase the efficiency of auditing internal control weaknesses (AS5) affected audit fees from 2006 to 2008. The findings indicated that audit fees were significantly related to the issuance of a GCMO

regardless of this new standard. However, Whisenant et al. (2003) did not find any significant relations between the issuance of a GCMO and audit fees in the year 2000.

As indicated above, prior research has found that the issuance of a GCMO generally has a positive impact on audit fees. However, these findings have been varied and were dependent on the other determinants included in these respective studies as well as the time periods being examined. An increase in audit fees could be related to a risk premium the auditor will subsequently demand because the issuance of a GCMO indicates the company is in financial distress. Additionally, the auditor would most likely increase the scope of their audit work due to the corresponding increase in business risk associated with the issuance of a GCMO. An increase in the scope of an audit generally results in more audit work being necessary, which increases the amount of time needed to perform the audit, which in turn increases overall audit fees.

Only one of the studies identified above (Whisenant et al., 2003) had the issuance of a GCMO as a determinant of NAS fees and they did not find a significant relationship. As noted above, when a company receives a first-time GCMO, it is a signal that the company is in financial distress and therefore a riskier audit client. This increase in risk could lead to an increase in audit fees and/or an increase in NAS fees to compensate the auditor for engaging with a riskier client if the audit firm is looking at overall fees in order to compensate for the corresponding increase in risk.

Another possible explanation could be that the company was trying to compensate the auditor for low-balling their audit fees. In a competitive market, audit firms might low-ball their audit fees in order to obtain a new client with the understanding that the increased pressure these at-risk clients are under would result in the sale of more NAS in

order to help the company recover from their distressed financial situation. Ciconte, Knechel and Mayberry (2014) found that total NAS purchased with the audit positively related to a subsequent increase in operating performance. This study also found that firms that gained the most from the purchase of NAS were those firms with a high level of “preexisting operating risk”.

It is also possible that an increase in NAS fees could simply be an attempt to bribe the new auditor for a clean opinion. Once again, if the competition in the market limits what can be charged for the audit, the client may attempt to make up the difference by purchasing additional NAS. On the contrary, it is also possible that given the financial distress of the company in a GCMO situation, the company may simply seek out ways to cut costs including reducing some of their NAS.

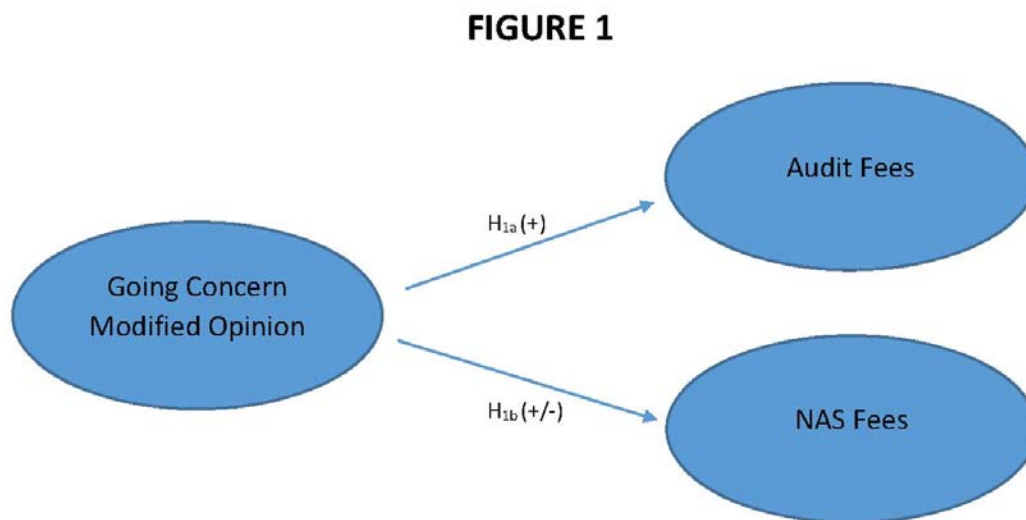
Therefore, the impact of issuing a GCMO on audit and NAS fees is still a question with mixed results depending on the time period of the study as well as the sample population. As risk assessment appears to factor into auditors’ client acceptance and retention decisions, and the issuance of a GCMO is an indicator of increased risk, risk-based theory would indicate that an increase in risk should have a corresponding increase in audit fees (Landsman, Nelson, & Rountree, 2009). As noted above, the extent of the change in audit and NAS fees and the nature of the fees involved has had mixed results but generally, the relation with audit fees has been positive (e.g., Ettredge et al., 2007; Desir et al., 2014; Huang, Raghunandan, & Rama, 2009) while the finding regarding the relation with NAS fees have not been conclusive in the extant literature. An increase in NAS fees could be observed if a firm compensates the auditor through NAS fees for taking on a risky client, to compensate for low-balling the audit fee and/or



to simply bribe the auditor for a clean opinion. Alternatively, due to the financial distress that caused the GCMO in the first place, the company may seek out ways to cut other costs including reducing some of their NAS. My ex-ante expectation was that there was a relationship between the issuance of a first time GCMO and NAS fees, but given the conflicting explanations of why this relationship exists, I did not predict a direction.

Therefore, the first set of hypotheses is as follows (see Figure 1):

- H1a: There is a positive relation between the issuance of a first-time GCMO and the change in audit fees.
- H1b: There is a relation between the issuance of a first-time GCMO and the change in NAS fees.



### 2.3 The impact of GCMOs on auditor dismissals

There has been an extensive amount of research on the determinants of changing auditors. This research has focused on many different areas including: opinion shopping; auditor resignations; internal control weaknesses; stressed companies, companies with financial restatements; audit committee composition and size of the audit firm. Many of

these studies included the issuance of a GCMO in their models. Prior literature has indicated that the primary reason firms receiving a GCMO seek to change auditors is to receive a different opinion (i.e., opinion shopping).

In their seminal work, Chow and Rice (1982) addressed how the issuance of a qualified opinion in 1973-74 affected a change in auditor, i.e., auditor switching. The basic question was does opinion shopping work? In trying to determine why firms switch auditors, the only variable that was statistically significant in this study was the type of opinion received before changing auditor. For opinion shopping, the authors compared the opinion received in the following year for firms that received a qualified opinion and switched auditors. The results were not significant, suggesting that changing auditors did not improve the type of opinion received from the old auditor. Krishnan and Stephens (1995) extended prior studies on opinion shopping by observing data on companies who switched auditors for two years (1986-87 and 1987-88) as compared to previous studies which only examined the year prior to switching. This study hypothesized that clients who switched received more favorable treatment from their successor auditors when compared to their former auditors. Their findings indicated that predecessor and successor auditors did not treat a client differently and issued a similar opinion, which was contrary to their expectations. They further stated that clients who changed auditors for reasons other than opinion shopping, such as enhancing the credibility of the financial statements, may be penalized through the issuance of public policy statements that were designed to control opinion shopping.

DeFond, Ettredge, and Smith (1997) examined the propensity of receiving a GCMO if the auditor resigned versus being dismissed from 1982 to 1987. This study

found that companies tended to receive a GCMO prior to the resignation of their auditor. The auditor resignation may have occurred due to a perceived increase in risk related to auditor-client disagreements reported on Form 8-K and/or a negative change in cash flows from operations.

In a study to examine the costs associated with going-concern audit opinions, Geiger, Raghunandan, and Rama (1998) assessed both the cost to the auditor and the cost to the client of the issuance of a GCMO. The authors addressed whether companies that received a going-concern modified opinion in 1990 or 1991 were equally likely to switch auditors as stressed companies that did not receive a GCMO. They found that the only significant variable in explaining why companies change auditors was the receipt of a going-concern modified opinion. They also addressed whether companies that received a first-time going-concern modified opinion and switched auditors were equally likely to receive a subsequent going-concern modified opinion as those who did not switch auditors. Their findings indicated that changing auditors did not appear to have a significant effect in explaining subsequent audit opinions and therefore concluded, similar to prior research, that attempts to opinion shop were unsuccessful.

Davidson III, Jiraporn, and DaDalt (2006) examined whether companies that switch auditors after receiving a modified audit opinion were more likely to choose a non-Big six auditor than those companies that received unqualified audit opinions. This study examined auditor changes from 1993 to 1997. The results in this study indicated that when a company received a modified audit opinion and switched to a new auditor, they were more likely to switch to a non-Big six auditor regardless of whether the prior auditor was a Big six or non-Big six firm. The authors suggested that the non-Big six

firm was considered a lower quality auditor and could be perceived as a less strict auditor.

In a different view on the costs of going-concern modified opinions, Carey, Geiger and O'Connell (2008) examined Australian firms from 1994 to 1997 and addressed the financial cost to the auditor for issuing a first time GCMO. They found companies receiving first-time GCMOs were more likely to switch auditors than similarly stressed companies not receiving a GCMO. The authors' findings were positive and significant, indicating that if a company received a first-time GCMO, they were more likely to switch audit firms when compared to similar highly stressed companies who did not receive a GCMO. This study also found that the audit fees paid in the subsequent year were significantly greater for the companies that received a GCMO than for those companies that were in similar distress but did not receive a GCMO. This confirmed the hypothesis that the audit fee revenue lost was greater for companies that received GCMOs than for those companies that did not receive GCMOs. However, they did not take into account the audit fee revenue that would be gained from a new client to see if the net effect on total audit fees was significant. Their data source was sixty Australian companies that received a going-concern modified opinion plus matched pairs. Due to the limited size of the sample, testing the data by specific audit firms may have rendered the sample too small.

As noted above, the extant research has generally indicated a positive relation between the issuance of a GCMO and a subsequent change in auditor. Prior research has indicated that a major motivation for such a change is that the company believed they

would get a “fairer shake” in the form of a clean opinion by a new auditor – i.e., opinion shopping.

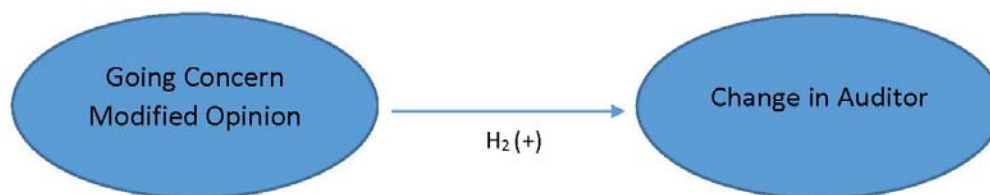
Governance changes post-SOX have put strict limitations on how, when and why a firm can change auditors. SOX is explicit in requiring that firms cannot change or dismiss their auditor without the audit committee’s involvement and approval. SOX has also changed the audit landscape by requiring the audit committee to have direct responsibility for the management of the outside auditors. The task of appointing, compensating, retaining, and work oversight of the external audit firm is now the direct responsibility of the audit committee. This is an important shift in the outside auditor’s line of reporting to the company’s management thereby increasing the independent nature of the auditor’s scope of work. These SOX driven changes suggest that findings from previous studies based on pre-SOX data may not be generalizable to the post-SOX period. In addition, there is strong evidence showing the nature of the audit and NAS provision has changed dramatically in the post-SOX period (Huang et al., 2009; Knechel & Sharma, 2012; Desir et al., 2014). Thus, examining whether firms receiving a GCMO would change auditors in the post-SOX period becomes an interesting question. Since this study in many ways reexamined findings of prior studies, the essence here was a differentiated replication in a different time period where governance regulations are drastically different. In keeping with the general conclusion from the prior literature, the second hypothesis is as follows: (see Figure 2):

H2: There is a positive relation between the issuance of a first-time GCMO and an auditor dismissal.<sup>8</sup>

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<sup>8</sup> Since I am examining whether the issuance of a GCMO affects the company’s decision to change auditors, my sample includes only the auditor changes that were the result of auditor dismissals.

FIGURE 2



#### 2.4 The impact of auditor dismissals on audit and NAS fees

The first set of hypotheses examined the change in audit and NAS fees related to the issuance of a GCMO while the second hypothesis examined the impact of the issuance of a GCMO on dismissals. The next step was to review the literature that examines the relation between auditor dismissals and audit and NAS fees – the third side of this triangular relation as shown in Figure 3 below.

The overall impact of auditor change on the audit process and audit/NAS fees has been an area of study for many years as well. Once again, the research can be broken down between pre-SOX and post-SOX changes as well as changes that occur after events such as the issuance of a GCMO, which is the primary focus of this study. The following is a summary of the research on the factors associated with auditor changes, how auditor changes affect audit fees and how auditor changes affect NAS fees.

##### *The relation between changing auditors and audit fees*

Eichenseher and Shields (1983) researched variables that affected the change in the relation between the auditor and the client. A survey was circulated to companies that

had auditor changes from 1976 to 1977. The two most important variables identified in this survey were audit fees and working relationship. Technical qualifications and audit team experience were not significant. This was consistent regardless of audit firm size or client size. Simon and Francis (1988) examined the price cutting phenomena for companies who changed auditors from 1979 to 1984. They found an average decrease of 24% in audit fees in the first year and an average decrease of 15% in fees over the next two years. After the third year, a discount was not observed indicating that audit fees had returned to pre-auditor change levels. These results were consistent regardless of the size of the audit firm.

Ettredge and Greenberg (1990) identified a decline in the initial mean and median audit fees charged when a firm changed auditors of 25% and 23% respectively. This study examined auditor changes from 1984 to 1987. The authors extended previous literature by examining the expertise of the auditors and the number of auditors bidding on the engagement. The authors hypothesized that changing to an auditor with industry expertise aligned with the industry of the firm would result in efficiencies. They used two measures of industry expertise, sales-weighted market share and firms who were cited as experts by client management. This study found a statistically significant decrease in audit fees as the market share expertise of the firm increased suggesting that auditors with more market share passed at least some of the economies of scale they realized from that increased market share onto their clients. However, audit fees did increase as management's perception of the auditor's industry expertise increased, suggesting management was willing to pay a premium for the expertise provided by the auditor. The authors also found that as the number of bidders for the engagement

increased (i.e., the market became more competitive), the audit fee declined by an average of one percent per bidder.

Butterworth and Houghton (1995) examined auditor changes in Australia from 1987 to 1988 and the effect on audit fees. Using the full population of all public companies in the Western Australian region with available information, this study did not observe any type of price-cutting. Craswell and Francis (1999) compared two theories of pricing initial audit engagements with Australian companies and auditing firms in 1987. One model predicted that there would be a discount for all initial audit engagements while the other model predicted that a discount would not be realized in all initial audit engagements when audit fees were publicly disclosed. The authors first used their audit fee model for all companies regardless of whether the change in auditor was to a Big 8 or not. Then the authors added an indicator variable on the type of auditor change: within Big 8, within non-Big 8, change from non-Big 8 to Big 8, and change from Big 8 to non-Big 8. The authors found that there was only a statistically significant discount on audit fees when there was a change from non-Big 8 to Big 8 auditor. The authors suggested that the cause of this discount was due to the economic concept of experienced goods, which asserts that a discount on higher-priced goods is used to induce purchasing these goods to entice the company to experience the goods.

Sankaraguruswamy et al. (2012) extended the research by Craswell and Francis after the SEC required disclosure of audit fees for U.S. audits. The authors examined U.S. companies who received an audit from Big N audit firms in multiple three-year segments between 2000 and 2007. The first year used in this sequence could not be their initial year with a Big N audit firm. For the second year, the sample was split into two



sub-groups by either switching to another Big N firm or staying with their incumbent firm. This allowed for a comparison of audit fees for companies that switched audit firms to companies that did not switch. In the third year, companies were to remain with the same audit firm as in year two. This allowed for an examination of the change in audit fees from year two to year three. The authors found that for all years of initial audits when there was a change in auditor, there was a decrease in audit fees especially in 2001 and 2006. In the second year after a change in auditor, an increase in audit fees was reported to almost pre-change audit fee levels.

Ettredge, Li and Scholz (2007) examined auditor changes post-SOX (specifically auditor dismissals in 2004). Prior literature indicated audit fees increased after SOX due to an increase in audit procedures. This study found that auditor changes were associated with increased fees, smaller companies, and the receipt of a GCMO. The findings also indicated an association between higher fees and switching to non-Big 4 auditors and were consistent with prior literature where companies switching auditors after having previously received a GCMO received the same opinion after the switch (Chow & Rice, 1982; Geiger et al., 1998). Although fees increased significantly for all companies in this study, the magnitude of the fee increases were not as large for those companies that changed auditors. In addition, those companies that changed to non-Big 4 auditors had smaller fee increases than those companies that switched to another Big 4 firm.

In the post-SOX era, a substantial amount of research in the area of auditor change has focused on how additional audit work, the reduction in the number of audit firms and financial restatements have effected audit fees when the change occurs.

Asthana, Balsam and Kim (2009) examined the change in audit fees in the post-Enron

era, how the forced change of auditor affected Arthur Andersen's clients, and whether riskier clients had higher audit fees. In examining the change in audit fees from 2000 to 2002, audit fees did not significantly change in the first year but did have a positive increase during 2002, which corresponds with the period of reduced service providers. However, when segmenting the sample and observing the change in audit fees for firms who switched auditors and whether the client was switching from Andersen to another Big 4 firm or a non-Big 4 firm, the results were mixed. The increase in fees for Andersen clients who switched to other Big 4 firms was not as great as the fee increase for clients who were not from Andersen, indicating that there was competition between the remaining firms for the Andersen clients (i.e., low-balling). When examining risk factors, including standard financial ratios and previous audit opinions, if the client became more risky, their audit fees increased in 2002.

Ebrahim (2010) found that there was an increase in audit fees during 2004-2005 due to SOX implementation, but for 2006, the audit fee increases slowed down. The study also showed a trend of switching from Big 4 to non-Big 4 firms with a lower increase in audit fees. Griffin and Lont (2005) examined the impact on audit fees due to auditor dismissals and resignations from 2000 to 2004. For dismissals, it was found that fees were discounted by both the successor auditor in the year after the change and the incumbent auditor the year before the change. The authors concluded from these findings that simply the threat of a dismissal may influence fees. However, for resignations it was found that fees were higher both before and after the auditor change indicating that auditors charge a premium when a resignation occurs. The study suggested that this was potentially due to the new auditor assuming greater than normal litigation risk and/or

perceiving an increase in audit effort. The findings in this study indicated that while SOX did not affect the discounting of fees around a dismissal, it did result in a higher fee premium when a resignation occurred. This study also found a positive relation between audit fees and the issuance of a GCMO for both types of auditor change.

Elliott, Ghosh, and Peltier (2013) examined the relation between audit fees and risky initial audit engagements. The authors studied auditor-client disagreements and reportable events as reported in their 8-K from 2004 to 2011 as a measure of risk. The findings indicated that auditors increased fees as clients developed problems. When a client changed auditors after disagreements or a reportable event, audit fees were 45% higher if the new auditor was a Big 4 auditor. This fee premium continued for at least three years after the change. Huang, Raghunandan, and Rama (2009) found that after SOX, the initial audit discount (known as low-balling) was gone. The authors examined auditor changes in 2001 and 2006. Consistent with prior literature, in 2001 the new auditor charged 24% less for the initial audit. However, in 2006, Big 4 auditors charged an average fee premium of 16% to new clients. They also noted that if there was a change in auditor, the Big 4 firm was not retained. Desir, Casterella, and Kokina (2014) examined the discounting of audit fees for initial engagements to determine if the audit fee premium still existed after the implementation of SOX. Their sample years were 2007 to 2010 – extending Huang et al.'s (2009) final sample year of 2006. Their results showed that discounting audit fees had resurfaced in these subsequent years. All the sample years indicated discounting for both Big 4 and non-Big 4 firms.

*The relation between changing auditors and NAS fees*

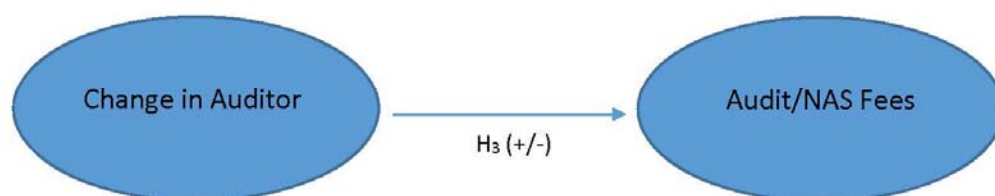
As noted above, there have been several studies that examined the determinants of NAS fees. However, only two studies have been identified that examined the relation between auditor changes and NAS fees. DeBerg, Kaplan, and Pany (1991) addressed changing auditors and NAS fees. Comparing companies that changed auditors to those that did not change from 1978 to 1982, this study found that there was not a significant difference in NAS fees purchased by the companies prior to the change. However, for those companies that did change auditors, there was a significant decline in the NAS fees purchased from the predecessor auditor in the year following the change (this study only examined the first year after the change). Using audit and NAS fee data from the U.K from 1994 to 2000, Antle et al. (2006) found knowledge spillover from both audit services to NAS and from NAS to audit services. Auditor change was one of the control variables in this study; however, the results did not indicate a significant relation between auditor change and NAS fees.

In summary, there has been a significant amount of research documenting the relation between a change in auditor and audit fees. However, the nature of this relation has had mixed results across the studies reviewed depending on the circumstances surrounding the change (e.g., forced or voluntary change, riskiness of the engagement, change in audit firm size – Big N to non-Big N or vice versa, etc.). Conversely, there has been little research on the relation between a change in auditor and NAS fees and the findings in these studies have not been conclusive. Using the risk-based theories discussed above, one would expect a positive relation between auditor dismissal and audit fees. However, if one considers the low-balling theory discussed above, this

relation between auditor dismissal and audit fees would likely be negative. Since NAS fees are typically lower in the first few years of an auditor's tenure (Ghosh, Kallapur, & Moon, 2006), the relation with NAS fees should be negative. However, NAS fees could increase if a firm compensates the new auditor for taking on a risky client, compensates the new auditor for any low-balling of audit fees, and/or uses it to bribe the new auditor for a clean opinion. As mentioned earlier, due to the unprecedented changes in the governance of the audit environment, it is important to re-examine findings in pre-SOX studies. Therefore, depending on the variables being studied, the different theories being discussed and the time period of the study, I propose the following hypotheses in order to examine these relations in the post-SOX time period (see Figure 3):

- H3a: There is a relation between an auditor dismissal and the change in audit fees.
- H3b: There is a relation between an auditor dismissal and the change in NAS fees.

**FIGURE 3**



As outlined above, this study examined three distinct relations: the effect of issuing a first-time GCMO on the change in audit and NAS fees (H1); the relation between the issuance of a first-time GCMO and auditor dismissal (H2); and the effect of an auditor dismissal on the change in audit and NAS fees (H3). Several studies have examined these different relations with mixed results. However, no study has addressed the extent to which the issuance of a first-time GCMO moderates the relation between a change in auditor and the change in fees – i.e., what is the impact on audit and NAS fees when there is an auditor dismissal after the issuance of a GCMO.

As was discussed earlier in this study, changing auditors is not a costless event and if a company is facing the issuance of a first-time GCMO, the company is obviously under some level of financial distress. The reasons for changing auditors have not been clearly identified in the extant literature. Two alternatives that have been thoroughly examined include companies that might be searching for a lower cost alternative or companies that are unhappy with their current opinion and go searching for a more favorable opinion. As identified in numerous studies (e.g., Chow & Rice, 1982; Schwartz & Menon, 1985; Krishnan & Stephens, 1995), opinion shopping does not seem to result in a different opinion. Therefore, a decrease in fees may be the motivation behind the change in auditor.

A positive relation might exist if the company that is issued a GCMO is now perceived as more risky and therefore in need of additional audit procedures and/or auditors may charge higher audit fees to compensate for the riskiness of the client. A negative relation might exist if, when changing auditors after a

GCMO, the subsequent auditor “lowballs” a bid in order to obtain the client. As audit partners are compensated for the number and size of their clients (Knechel, Niemi, & Zerni, 2013), there are individual incentives to obtain or retain clients. Chakrabarty, Duellman, and Hyman (2015) examined the relation between financial statement fraud and audit fees from 2000 to 2013 and found that as the likelihood of fraud increased, audit fees decreased. The authors postulated that the auditors were willing to decrease fees as the likelihood of fraud increased indicating that client retention was more important than the risk to their reputation for not detecting the fraud. In addition, Landsman, Nelson, and Rountree (2009) examined auditor switches in both the pre- and post-Enron era (specifically from 1993 to 2000 and then from 2003 to 2005) and found that smaller audit firms are more likely to engage with riskier clients because the increase in revenue associated with the new client is more likely to exceed the increase in cost associated with that client.

The direction of the relation is also not known when it comes to NAS fees. It could be that with an auditor dismissal, the company does not immediately seek NAS from their new auditor, which would result in a decrease in NAS fees. However, it is also possible that an increase in NAS fees could result if the company is trying to compensate the new auditor for engaging with a more risky client. As noted above, if the audit environment is competitive, the audit fee might not be as negotiable and therefore, the company might compensate the auditor for this increase in risk by purchasing additional NAS. It is also possible that the client purchases additional NAS in order to improve their operating

performance (Ciconte, Knechel & Mayberry, 2014). Finally, as noted above, the company could simply be attempting to bribe the auditor for a clean opinion with the purchase of additional NAS.<sup>9</sup>

Therefore, it remains an open question that if a company receives a first-time GCMO and subsequently dismisses the auditors, what is the impact on their audit and NAS fees. This led me to the fourth set of hypotheses (see Figure 4):

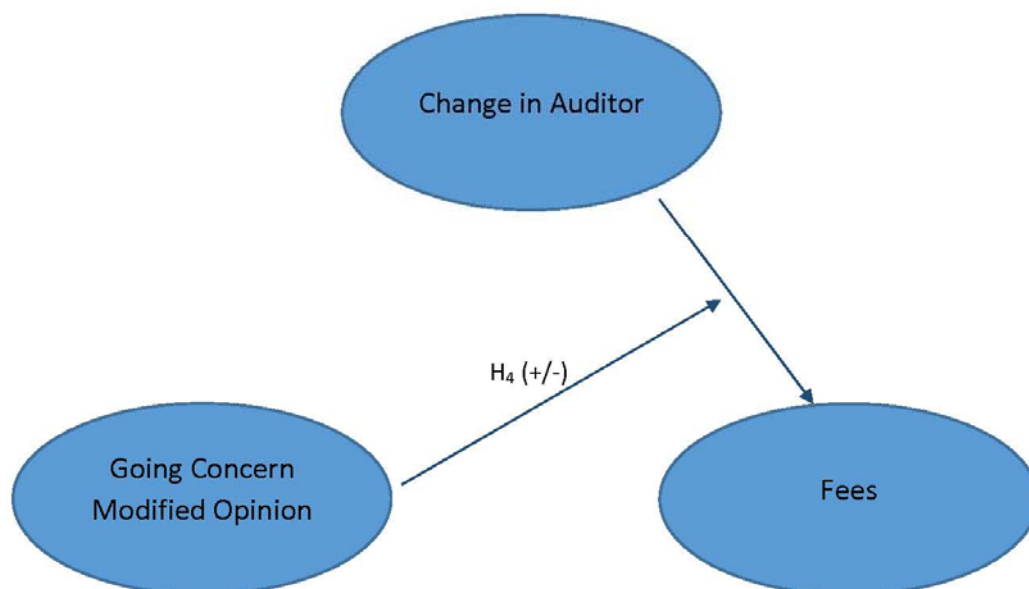
- H4a: The existence of a first-time GCMO has a moderating effect on the relation between an auditor dismissal and the change in audit fees.
- H4b: The existence of a first-time GCMO has a moderating effect on the relation between an auditor dismissal and the change in NAS fees.

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<sup>9</sup> It is also possible that a company changes auditor in an attempt to correct their performance issues. However, I will leave this question to future research.



FIGURE 4



### 2.5 Potential reasons companies purchase NAS after a GCMO

As discussed earlier, there are many possible explanations for why a company might buy additional NAS from a new audit firm after the issuance of a GCMO. Several studies have examined the relation between NAS fees and the issuance of a GCMO (e.g., Sharma & Sidhu, 2001; DeFond, Raghunandan, & Subramanyam, 2002; Callaghan, Parkash, & Singhal, 2009; Blay & Geiger, 2013). However, no studies directly examined why firms might purchase additional NAS after the issuance of a GCMO.

As noted above, it is clear that companies receiving a first-time GCMO are under financial distress and are in need of some kind of change in their operating performance if they are going to survive. Ciconte et al. (2014) examine whether the purchase of NAS in conjunction with the audit provide value to a client by improving their operating

performance and by improving how the client manages risk. This study found that the purchase of NAS was positively related to subsequent increases in operating performance and that NAS was negatively related to future operating risk indicating that NAS enhances the company's risk management. Although this study does not directly examine the issuance of a GCMO, it can be argued that poor operating performance is related to the possibility of a company receiving a GCMO. Prior literature has also provided evidence that NAS purchases can be used to bribe the auditor. For instance, Causholli, Chambers, and Payne (2014) provide evidence that future additional purchases of NAS can lower current audit quality and that this finding is pronounced for firms with a greater need to manage earnings. Once again, although this study does not directly examine the issuance of a GCMO, it can be argued that a greater need to manage earnings certainly exists in those firms receiving a GCMO.

I examined three basic explanations for why firms might purchase greater NAS from their new auditor after receiving a first-time GCMO.<sup>10</sup> One potential explanation for buying additional services is that the company is trying to compensate the new auditor for engaging with a more risky client. Another possible explanation is that the company is trying to compensate the new auditor for low-balling their audit fees. Alternatively, it simply could be an attempt to bribe the auditor for a clean opinion. These were just three of the potential explanations and it should be noted that these are not mutually exclusive – some or all of these explanations could contribute to why firms purchase NAS, which led me to my final set of hypotheses:

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<sup>10</sup> Another potential explanation is that a company changes auditors in an attempt to turn around their poor performance. However, I will leave this question to future research.

- H5a: A company receiving a first-time GCMO purchases additional NAS from their new auditor in order to compensate the auditor for engaging with a more risky client.
- H5b: A company receiving a first-time GCMO purchases additional NAS from their new auditor in order to compensate the auditor for lowballing their audit fee (cross-subsidization hypothesis).
- H5c: A company receiving a first-time GCMO purchases additional NAS from their new auditor in order to receive a better opinion.

## CHAPTER 3 - METHODOLOGY

### 3.1 Sample Selection and Data Sources

In order to analyze the relations between audit/NAS fees, auditor dismissals and GCMOs, I obtained data for all U.S. publicly listed companies from 2004 to 2014. Consistent with prior research (Munsif et al., 2011; Blay & Geiger, 2013; Desir et al., 2014), the sample period begins in 2004 after the implementation of SOX. Financial institutions and utility companies were also removed to be consistent with prior research and because these industries are heavily regulated and have unique financial reporting and auditing issues (Huang et al., 2009; Knechel & Sharma, 2012; Elliott, Ghosh, & Peltier, 2013; Huang et al., 2014).

Audit Analytics was utilized to obtain the independent and dependent variables including audit and NAS fees, auditor dismissal and the moderator variable – type of opinion issued. Compustat was used for the majority of the financial control variables. Zmijewski's ZScore was used as a measure of financial distress and the information necessary for that computation was also obtained from Compustat (Zmijewski, 1984).

Panel A of Table 1 details the sample selection process. The sample selection began with all firm-years with audit fees in Audit Analytics from 2004 through 2014 for a total of 128,034 observations. I excluded 59,135 firm years that were missing in Compustat. Financial institutions and utility companies for a total of 16,867 firm year observations were also removed to be consistent with prior research and because these industries are heavily regulated and have unique financial reporting and auditing issues

(Huang et al., 2009; Knechel & Sharma, 2012; Elliott, Ghosh, & Peltier, 2013; Huang et al., 2014). The sample was further reduced for missing data in Audit Analytics of 325 firm-year observations and 3,253 firm-year observations in Compustat. This left a final sample of 48,414 firm-year observations. Panel B of Table 1 details the number of firm year observations by year. The sample includes 4,983 firm years in 2004, 4,823 firm-years in 2005, 4,744 firm-years in 2006, 4,606 firm-years in 2007, 4,381 firm-years in 2008, 4,204 firm-years in 2009, 4,135 firm-years in 2010, 4,068 firm-years in 2011, 4,096 firm-years in 2012, 4,152 firm-years in 2013, and 4,222 firm-years in 2014.

Panel C of Table 1 shows the sample's industry composition. Similar to previous research, a two-digit SIC code was used (Huang et al., 2014). There are 62 individual SIC codes in the sample. Manufacturing (SIC codes 20-39) represents approximately 50% of the sample.

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Table 1  
Sample Selection and Industry

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Panel A: Sample Selection:

	<u>Observations</u>
Initial firm-year observations with audit fees in Audit analytics	128,034
Less: Firm-year observations not in Compustat	(59,135)
Less: Financial firms (SIC 6000-6999) and Utilities (SIC 4900-4999)	(16,907)
Less: Firm-year observations with missing data in Audit Analytics	(325)
Less: Firm-year observations with missing data in Compustat	<u>(3,253)</u>
Total number of observations in final sample	48,414

Panel B: Sample by year

	Firm-Years
2004	4,983
2005	4,823
2006	4,744
2007	4,606
2008	4,381

2009	4,204
2010	4,135
2011	4,068
2012	4,096
2013	4,152
2014	<u>4,222</u>
Final Sample	48,414

Panel C: Sample by Industry Composition:

<u>Two-Digit SIC Code</u>	<u>Industry Name</u>	<u>Number of Firms</u>	<u>% of Sample</u>
00-09	Agriculture, forestry, and fishing	210	0.43
10-19	Mining and construction	4,295	8.87
20-29	Manufacturing	9,914	20.48
30-39	Manufacturing	14,576	30.11
40-48	Transportation and communications	3,698	7.64
50-59	Wholesale and retail trade	4,594	9.49
70-59	Services	8,035	16.60
80-89	Services	2,300	4.75
90-99	Public administration	<u>792</u>	<u>1.64</u>
	Total Sample	48,414	100.00

### 3.2 Research Method and Measurement of Variables

Consistent with prior research on GCMOs, auditor dismissals and audit/NAS fees, a multivariate regression model was used to examine the relations between GCMOs, auditor dismissals and audit/NAS fees. These multivariate regression models helped me test my five sets of hypotheses.

Hypotheses 1 posited that there was a positive relation between the issuance of a first-time GCMO and the change in audit fees and a negative relation between the issuance of a first-time GCMO and the change in NAS fees. In order to examine these hypotheses, I tested two different models based on the different dependent variables. The first model included the change in audit fees as the dependent variable, while the other

model examined the change in NAS fees. In addition, given that the second hypothesis posits that a significant association exists between auditor dismissal and GCMO, as well as that a change in auditor is a choice, I used a two-stage treatment effects model (Greene, 2003; Maddala, 1983). More specifically, I ran model 3 below as a multivariate probit regression to obtain an inverse Mills ratio (MILLS) that was used in models that included both auditor dismissal and GCMO as independent variables.<sup>11</sup> The variable of interest for Hypothesis 1 was the issuance of a GCMO. Therefore, the models for the first set of hypotheses are as follows:

$$\begin{aligned} \Delta \text{AUDIT FEES}_t = & \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \Delta \text{AUDITOR}_t + \beta_3 \text{BIG 4}_{t-1} + \beta_4 \text{SIZE}_{t-1} + \\ & \beta_5 \text{RESTATE}_{t-1} + \beta_6 \text{SEGS}_{t-1} + \beta_7 \text{FORSEGS}_{t-1} + \beta_8 \text{BM}_{t-1} + \beta_9 \\ & \text{RECINV}_{t-1} + \beta_{10} \text{MERGER}_{t-1} + \beta_{11} \text{ICMW}_{t-1} + \beta_{12} \text{LOSS}_{t-1} + \\ & \beta_{13} \text{ROA}_{t-1} + \beta_{14} \text{ZSCORE}_{t-1} + \beta_{15} \text{LIQ}_{t-1} + \beta_{16} \text{LEV}_{t-1} + \beta_{17} \\ & \text{NEWFIN}_{t-1} + \beta_{18} \text{CEOTURN}_{t-1} + \beta_{19} \text{CFOTURN}_{t-1} + \beta_{20} \text{ARL}_{t-1} \\ & + \beta_{21} \text{YEAR}_{t-1} + \beta_{22} \text{INDUS}_{t-1} + \beta_{23} \text{MILLS}_t + \varepsilon \end{aligned} \quad (1)$$

$$\begin{aligned} \Delta \text{NAS FEES}_t = & \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \Delta \text{AUDITOR}_t + \beta_3 \text{BIG 4}_{t-1} + \beta_4 \text{SIZE}_{t-1} + \\ & \beta_5 \text{RESTATE}_{t-1} + \beta_6 \text{SEGS}_{t-1} + \beta_7 \text{FORSEGS}_{t-1} + \beta_8 \text{BM}_{t-1} + \beta_9 \\ & \text{RECINV}_{t-1} + \beta_{10} \text{MERGER}_{t-1} + \beta_{11} \text{ICMW}_{t-1} + \beta_{12} \text{LOSS}_{t-1} + \\ & \beta_{13} \text{ROA}_{t-1} + \beta_{14} \text{ZSCORE}_{t-1} + \beta_{15} \text{LIQ}_{t-1} + \beta_{16} \text{LEV}_{t-1} + \beta_{17} \\ & \text{NEWFIN}_{t-1} + \beta_{18} \text{CEOTURN}_{t-1} + \beta_{19} \text{CFOTURN}_{t-1} + \beta_{20} \text{ARL}_{t-1} \\ & + \beta_{21} \text{YEAR}_{t-1} + \beta_{22} \text{INDUS}_{t-1} + \beta_{23} \text{MILLS}_t + \varepsilon \end{aligned} \quad (2)$$

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<sup>11</sup> To implement this approach, a variable must be identified that is related to the dependent variable in the first regression (i.e., auditor dismissal) but not related to the dependent variable in the second regression (i.e., fees). A review of the literature suggests that auditor tenure meets this requirement (Hay et al., 2006). Therefore, I included auditor tenure in the first stage multivariate probit regression (model 3).

I formally define all independent and dependent variables used in my models in the next section.

Hypothesis 2 posited that there was a positive relation between the issuance of a first-time GCMO and an auditor dismissal ( $\Delta$ AUDITOR). Therefore, the variable of interest was also the issuance of a GCMO. However, in this hypothesis, the dependent variable was auditor dismissal.<sup>12</sup> As this was a dichotomous variable, a multivariate logistic model was utilized. The control variables in this model have the same definition as the variables in the other models; however, the direction of the relation with the dependent variable in this model may be different than the other models. In addition, there are several variables from the other models that are not included in this model because either they were not used in previous studies regarding auditor change or no significant relations were found in previous studies between these variables and auditor change. The model for Hypothesis 2 is as follows:

$$\begin{aligned} \Delta\text{AUDITOR}_t = & \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \text{BIG 4}_{t-1} + \beta_3 \text{SIZE}_{t-1} + \beta_4 \text{RESTATE}_{t-1} + \\ & \beta_5 \text{SEGS}_{t-1} + \beta_6 \text{RECINV}_{t-1} + \beta_7 \text{MERGER}_{t-1} + \beta_8 \text{LOSS}_{t-1} + \beta_9 \\ & \text{ROA}_{t-1} + \beta_{10} \text{ZSCORE}_{t-1} + \beta_{11} \text{LEV}_{t-1} + \beta_{12} \text{ICMW}_{t-1} + \beta_{13} \\ & \text{TENURE}_{t-1} + \varepsilon \quad (3) \end{aligned}$$

Hypothesis 3 posited that there was a relation between an auditor dismissal and change in audit/NAS fees. I used the same empirical models as H1 to test my third hypothesis. The primary difference was that the variable of interest was auditor dismissal ( $\Delta$ AUDITOR), not GCMO.

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<sup>12</sup> Consistent with the discussion in the previous chapter, I limited this analysis to only observations where the auditor was dismissed.



Hypothesis 4 posited that there was a change in the relation between an auditor dismissal and the change in audit/NAS fees when there is the issuance of a first-time GCMO. The models for Hypotheses 4 are similar to the models for the first and third hypotheses, however an interaction term between a GCMO and auditor dismissal is included.

$$\begin{aligned} \Delta \text{AUDIT FEES}_t = & \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \Delta \text{AUDITOR}_t + \beta_3 \text{GCMO}_{t-1} * \Delta \text{AUDITOR}_t \\ & + \beta_4 \text{BIG 4}_{t-1} + \beta_5 \text{SIZE}_{t-1} + \beta_6 \text{RESTATE}_{t-1} + \beta_7 \text{SEGS}_{t-1} + \beta_8 \\ & \text{FORSEGS}_{t-1} + \beta_9 \text{BM}_{t-1} + \beta_{10} \text{RECINV}_{t-1} + \beta_{11} \text{MERGER}_{t-1} + \\ & \beta_{12} \text{ICMW}_{t-1} + \beta_{13} \text{LOSS}_{t-1} + \beta_{14} \text{ROA}_{t-1} + \beta_{15} \text{ZSCORE}_{t-1} + \beta_{16} \\ & \text{LIQ}_{t-1} + \beta_{17} \text{LEV}_{t-1} + \beta_{18} \text{NEWFIN}_{t-1} + \beta_{19} \text{CEOTURN}_{t-1} + \beta_{20} \\ & \text{CFOTURN}_{t-1} + \beta_{21} \text{ARL}_{t-1} + \beta_{22} \text{YEAR}_{t-1} + \beta_{23} \text{INDUS}_{t-1} + \beta_{24} \\ & \text{MILLS}_t + \varepsilon \end{aligned} \quad (4)$$

$$\begin{aligned} \Delta \text{NAS FEES}_t = & \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \Delta \text{AUDITOR}_t + \beta_3 \text{GCMO}_{t-1} * \Delta \text{AUDITOR}_t \\ & + \beta_4 \text{BIG 4}_{t-1} + \beta_5 \text{SIZE}_{t-1} + \beta_6 \text{RESTATE}_{t-1} + \beta_7 \text{SEGS}_{t-1} + \beta_8 \\ & \text{FORSEGS}_{t-1} + \beta_9 \text{BM}_{t-1} + \beta_{10} \text{RECINV}_{t-1} + \beta_{11} \text{MERGER}_{t-1} + \\ & \beta_{12} \text{ICMW}_{t-1} + \beta_{13} \text{LOSS}_{t-1} + \beta_{14} \text{ROA}_{t-1} + \beta_{15} \text{ZSCORE}_{t-1} + \beta_{16} \\ & \text{LIQ}_{t-1} + \beta_{17} \text{LEV}_{t-1} + \beta_{18} \text{NEWFIN}_{t-1} + \beta_{19} \text{CEOTURN}_{t-1} + \beta_{20} \\ & \text{CFOTURN}_{t-1} + \beta_{21} \text{ARL}_{t-1} + \beta_{22} \text{YEAR}_{t-1} + \beta_{23} \text{INDUS}_{t-1} + \beta_{24} \\ & \text{MILLS}_t + \varepsilon \end{aligned} \quad (5)$$

Hypothesis 5 posited that there might be other potential reasons why a firm that changes auditors after receiving a first-time GCMO would purchase additional NAS from their new auditor. These alternatives included the potential explanation that buying additional services could be a way for the firm to compensate the auditor for engaging with a more risky client (H5a) which was tested by taking the sum of coefficients of  $\beta_2$  and  $\beta_3$  in model 5 above. More specifically, since GCMO proxies for the riskiness of the client,  $\beta_2 + \beta_3 > 0$  would be consistent with H5a.

Another possible explanation discussed above could be that the company was trying to compensate the auditor for low-balling their audit fees (H5b). Model 6 was used to examine firms with a GCMO who switch auditors and if low-balling does exist, test whether the audit firm was trying to recoup this loss in audit fees through higher NAS fees (i.e., cross-subsidization). In order to test this low-balling hypothesis (H5b), I used an alternative to model 5 where the dependent variable was the ratio of NAS fees to audit fees and the coefficients of interest were again  $\beta_2$  and  $\beta_3$ .  $\beta_2 + \beta_3 > 0$  would be consistent with H5b in the model below:

$$\begin{aligned} \text{NAS FEES}_t / \text{AUDIT FEES}_t = & \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \Delta\text{AUDITOR}_t + \beta_3 \text{GCMO}_{t-1} \\ & * \Delta\text{AUDITOR}_t + \beta_4 \text{BIG 4}_{t-1} + \beta_5 \text{SIZE}_{t-1} + \beta_6 \\ & \text{RESTATE}_{t-1} + \beta_7 \text{SEGS}_{t-1} + \beta_8 \text{FORSEGS}_{t-1} + \beta_9 \\ & \text{BM}_{t-1} + \beta_{10} \text{RECINV}_{t-1} + \beta_{11} \text{MERGER}_{t-1} + \beta_{12} \\ & \text{ICMW}_{t-1} + \beta_{13} \text{LOSS}_{t-1} + \beta_{14} \text{ROA}_{t-1} + \beta_{15} \text{ZSCORE}_{t-1} \\ & + \beta_{16} \text{LIQ}_{t-1} + \beta_{17} \text{LEV}_{t-1} + \beta_{18} \text{NEWFIN}_{t-1} + \beta_{19} \\ & \text{CEOTURN}_{t-1} + \beta_{20} \text{CFOTURN}_{t-1} + \beta_{21} \text{ARL}_{t-1} + \beta_{22} \\ & \text{YEAR}_{t-1} + \beta_{23} \text{INDUS}_{t-1} + \beta_{24} \text{MILLS}_t + \varepsilon \end{aligned}$$

(6)

The third potential explanation identified above was that these additional NAS fees could simply be an attempt to bribe the auditor for a clean opinion. The model for this last hypothesis (H5c) uses the issuance of a GCMO as the dependent variable with NAS fees, auditor dismissal and the interaction of NAS fees and auditor dismissal as the variables of interest. The control variables in this model have the same definition as the variables in the other models, however, the direction of the relation with the dependent variable in this model may be different than the other models. In addition, note that there were several variables from the other models that were not included in this model

because either they were not used in previous studies regarding GCMO and NAS fees or no significant relations were found in previous studies between these variables. This analysis only focuses on the subset of firms with a GCMO. Given how the dependent variable was coded (i.e., 0 represents a clean opinion),  $\beta_2 + \beta_3 < 0$  would be consistent with H5c. In other words, if a firm purchases greater NAS fees then they are more likely to get a clean opinion with a new auditor. This last model is as follows:

$$\begin{aligned} \text{GCMO}_t = & \beta_0 + \beta_1 \text{NAS FEES}_t + \beta_2 \Delta\text{AUDITOR}_t + \beta_3 \text{NAS FEES}_t * \Delta\text{AUDITOR}_t + \\ & \beta_4 \text{BIG 4}_{t-1} + \beta_5 \text{SIZE}_{t-1} + \beta_6 \text{ZSCORE}_{t-1} + \beta_7 \text{LIQ}_{t-1} + \beta_8 \text{LEV}_{t-1} + \beta_9 \\ & \text{NEWFIN}_{t-1} + \beta_{10} \text{ARL}_{t-1} + \varepsilon \end{aligned} \quad (7)$$

where GCMO takes a value of 1 if a GCMO was issued and 0 otherwise.

These are just three of the potential explanations and it should be noted that these are not mutually exclusive – some or all of these explanations could contribute to why firms purchase NAS.

### 3.2.1 Dependent Variables

Fees paid to auditors have been measured and dissected in several ways including examining only audit fees paid and only NAS fees paid. Audit fees charged by auditors are the result of various risk factors including GCMOs (Whisenant et al., 2003; Ettredge et al., 2007; Raghunandan & Rama, 2006; Desir et al., 2014). Prior studies have indicated that NAS provide knowledge spillover, which would have an effect on future audit fees (Knechel & Sharma, 2012). Additionally, the impact of SOX on NAS fees have also been studied (Ghosh & Pawlewicz, 2009). These variables have been chosen to examine the impact a change in auditor and the issuance of a GCMO will have on these

different types of fees. Also, consistent with prior research, since auditor switching is inherently a change variable, the dependent variables of interest in these three hypotheses were the change in fees from one year to the next (Ghosh & Pawlewicz, 2009; Feldmann et al., 2009; Ettredge et al., 2007). Consistent with this research,  $\Delta$ AUDIT FEES and  $\Delta$ NAS FEES were calculated as the difference between the natural log of the respective fees in year t-1 and year t and were collected from Audit Analytics.

The second hypothesis did not use some form of fees as the dependent variable – instead the dependent variable in the second hypothesis was auditor dismissal ( $\Delta$ AUDITOR). The decision to change auditors happens for a variety of reasons. When a GCMO is received, studies have shown an increase in the number of firms changing auditors (Chow & Rice, 1982; Krishnan, 1994). This variable was selected to explore the relation between firms receiving a GCMO and the impact of receiving the opinion when there is a change in auditor.  $\Delta$ AUDITOR was a dichotomous variable coded as a 1 when an auditor dismissal has occurred and a 0 if there was no auditor dismissal in year t and was collected from Audit Analytics. The dependent variable for the “low-balling” hypothesis (H5b) was the ratio of NAS fees to audit fees. Finally, the dependent variable for the “bribe” hypothesis (H5c) was the issuance of a GCMO. This variable was dichotomous and coded as a 1 if a GCMO was issued in year t and 0 otherwise.

### 3.2.2 Test Variables

Audit risk has been shown to have a positive relation with audit fees. The issuance of a GCMO has been used as a measure of risk to the auditor (Simunic, 1980; Ettredge et al., 2007) and has been identified as a possible reason to perform additional audit work (Raghunandan & Rama, 2006). As noted above, the extent of the change in

fees and the nature of the fees involved has had mixed results but generally, the relation with audit fees has been positive (e.g., Ettredge et al., 2007; Desir et al., 2014; Huang et al., 2009) while the findings regarding the relation with NAS fees have not been conclusive. However, as noted earlier, NAS fees are usually lower in the first few years of the auditor tenure (Ghosh et al., 2006). Therefore, I predicted a positive relation between the issuance of a GCMO and audit fees and a relation between the issuance of a GCMO and NAS fees. The issuance of a first-time GCMO was included in both models testing Hypotheses 1 and was a dichotomous variable coded as a 1 when a first time GCMO was issued and a 0 if it was not a first time GCMO in year t-1. Data for the issuance of a first-time GCMO was obtained from Audit Analytics.

The receipt of a GCMO has been shown to be positively related to changing auditors (Carey, Geiger, & O'Connell, 2008; Chow & Rice, 1982; Geiger et al., 1998; Ettredge et al., 2007). Hypothesis 2 tested this relation. Consistent with this prior research, the relation between changing auditors ( $\Delta$ AUDITOR) and the issuance of a GCMO was expected to be positive. Once again, GCMO was a dichotomous variable coded as a 1 when a first-time GCMO was issued and 0 if it was not a first-time GCMO.

Literature on audit and NAS fees after a change in auditor has produced mixed results. As discussed in Chapter 2, there has been a significant amount of research that documents a relation between a change in auditor and audit fees (e.g. Asthana, Balsam, & Kim, 2009; Ebrahim, 2010; Elliott et al., 2013; Craswell & Francis, 1999; Desir et al., 2014). However, the nature of that relation has had mixed results in prior studies depending on the circumstances surrounding the change. DeBerg et al. (1991) found no significant relation between NAS fees and changing auditors prior to the change in

auditors. However, for those firms that did change auditors, there was a significant decline in NAS fees after the change in auditor. Hypothesis 3 examined the relation between changing auditors and the change in fees (both audit and NAS). To examine this relation, the variable for auditor dismissal ( $\Delta$ AUDITOR) was included. Given the mixed results in the prior literature, I did not predict a direction on the relation between auditor dismissals and the change in audit fees and between auditor dismissals and the change in NAS fees.  $\Delta$ AUDITOR was a dichotomous variable with 1 representing that there has been an auditor dismissal and 0 indicating that there has not been an auditor dismissal in year  $t$ . The auditor dismissal information was obtained from Audit Analytics.

Hypothesis 4 examined the effect of the interaction between the test variable in the first hypothesis – issuance of a first time GCMO and the test variable in the third hypothesis – auditor dismissal ( $\Delta$ AUDITOR). Both of these independent variables and an interaction variable ( $GCMO * \Delta$ AUDITOR) was included to determine if the interaction of these two variables has a significant effect on the results. As no prior research has been done in this area, I did not predict a direction on the relation between the change in fees (audit and NAS) and the interaction term of GCMO and auditor dismissal.

Hypothesis 5 examined other potential reasons why companies purchase additional NAS after the issuance of a GCMO. The first two alternatives examined utilize the same test variables as the first, third and fourth hypotheses noted above. In the third alternative, the “bribe” hypothesis (H5c), the test variables are NAS fees (NAS FEES), auditor dismissal ( $\Delta$ AUDITOR) and the interaction of these two variables ( $NAS FEES * \Delta$ AUDITOR) to determine if the auditor was being compensated for changing their opinion.

### 3.2.3 Control Variables – for the Fee Models (H1, H3, H4 and H5a/b)

Variables related to the company and the audit engagement and their effect on audit and NAS fees have been examined since this stream of research began (Hay et al., 2006). Relying on prior research, control variables previously used in audit fee models were identified.

Prior research has shown a positive relation between Big 4 accounting firms and fees (Raghunandan & Rama, 2006; Elliott et al., 2013; Whisenant et al., 2003; Ashbaugh et al., 2003). A variable for Big 4 (BIG4) was included in this study. This was a dichotomous variable with 1 indicating the company was audited by a Big 4 firm in year t-1 and 0 indicating the audit was performed by a non-Big 4 firm. This variable was obtained from Audit Analytics.

Previous studies have identified several factors that measure firm complexity, which is expected to increase the amount of audit time (Simunic 1980). There has been a positive relation established in the literature between the size of a company (SIZE) and the amount of fees (Raghunandan & Rama, 2006; Elliott et al., 2013; Desir et al., 2014). Consistent with prior literature, I controlled for the size of the company (SIZE) which was measured by the log of total assets. Total assets were obtained from Compustat. The literature indicates a positive relation between restated financial statements (RESTATE) and audit fees (Feldmann et al., 2009; Huang et al., 2009; Hoitash, Hoitash & Bedard, 2008; Whisenant et al., 2003). I controlled for financial restatements (RESTATE) as a dichotomous variable with 1 indicating a financial restatement in year t-1 and 0 if there had not been a restatement. Financial restatements were obtained from Audit Analytics.

The number of business segments (SEGS) and foreign subsidiaries (FORSEGS) have also been used as measures of complexity and have been shown to have a positive relation with fees (Whisenant et al., 2003; Elliott et al., 2013; Desir et al., 2014). Business segment data was obtained from Compustat. Book to Market ratio (BM) has been used in previous literature as a surrogate for growth (Raghunandan, Read, & Whisenant, 2003; Ashbaugh et al., 2003) and a negative relation between this ratio and fees has been shown (Whisenant et al., 2003; Ashbaugh et al., 2003). The variable was measured as the book value of equity to market capitalization. Book value of equity and market capitalization were obtained from Compustat.

Prior research has indicated that audit fees are positively related to the inherent risk of an audit (Simunic, 1980; Ashbaugh et al., 2003). Accounts receivable and inventory (RECINV) have been used as a measure of this risk showing a positive relationship with audit fees (Whisenant et al., 2003; Raghunandan & Rama, 2006; Hoitash et al., 2008; Huang et al., 2009; Elliott et al., 2013). This variable was measured by the total accounts receivable and inventory divided by total assets. In addition, prior research indicated that merger or acquisition activity (MERGER) are indicators of audit complexity and increase the need for additional audit and consulting services (Ashbaugh et al., 2003; Elliott et al., 2013). This was a dichotomous variable with 1 indicating the company had merger or acquisition activity and 0 if they did not have any merger or acquisition activity in year t-1. Data for accounts receivable, inventory and merger or acquisition activity was obtained from Compustat.

Internal control material weaknesses (ICMW) have been shown to have a positive relation with fees (Raghunandan & Rama, 2006; Ettredge et al., 2007; Hoitash et al.,



2008; Huang et al., 2009). This would indicate that as companies had internal control issues, there was an increase in audit effort or a risk premium charged (Hoitash et al., 2008). Once again, this was a dichotomous variable with 1 indicating the company had a material weakness in internal controls in year t-1 and 0 if they did not have a material weakness. Data on ICMW was obtained from Audit Analytics.

To control for how profitability measures affect fees, an indicator variable for loss and a variable for return on assets was included. Prior research has indicated that profitability is an indicator of client business risk (Hoitash et al., 2008). A variable for loss (LOSS) has been used as an indicator showing a positive relation with fees (Whisenant et al., 2003; Hoitash et al., 2008; Huang et al., 2009; Desir et al., 2014). This was a dichotomous variable coded as a 1 if the company had negative net income and 0 if they had positive net income in year t-1. Return on assets (ROA) was used as a measure for firm performance and profitability. Return on assets has shown a negative relation with audit fees (Whisenant et al., 2003; Desir et al., 2014), NAS fees (Whisenant et al., 2003; Ashbaugh et al., 2003), and total fees (Ashbaugh et al., 2003). This variable was measured as operating income divided by total assets in year t-1. Data for LOSS and ROA was obtained from Compustat.

Potential bankruptcy is a high-risk area that can have a significant impact on audit and NAS fees. Prior research has indicated that when a company is under financial distress, they are more likely to have higher fees (Simunic 1980). A bankruptcy measure (ZSCORE) has been used as a proxy for financial distress. Consistent with the majority of recent research, I used the probit model of Zmijewski (1984) to determine the

Zscore<sup>13</sup>. Prior research has consistently shown a positive relation between Zscore and audit fees (Munsif et al., 2011; Sankaraguruswamy et al., 2012; Whisenant et al., 2003). However, no studies have examined the relation between Zscore and NAS. Measures used to create the Z-score were obtained from Compustat.

Prior literature has used liquidity (LIQ) of a company as a measure of client failure risk. A negative relation between fees and liquidity has been observed (Whisenant et al., 2003; Raghunandan & Rama, 2006; Elliott et al., 2013). Liquidity was measured as current assets divided by current liabilities and was obtained from Compustat.

Leverage (LEV) is another measure of the risk of a client failing. This variable has been shown to have a positive relation with audit fees (Raghunandan & Rama, 2006; Elliott et al., 2013) while there are mixed results for NAS (Ashbaugh et al., 2003; Whisenant et al., 2003). Leverage was measured as total debt divided by total assets in year t and the information was obtained from Compustat.

In addition, prior literature has measured the relation between new financing (NEWFIN)<sup>14</sup> and audit fees (Ettredge et al., 2007; Hoitash et al., 2008; Whisenant et al., 2003). The only one of these studies that had a significant relation between new financing and fees was Whisenant et al. who found a positive relation between new financing and NAS fees. Once again, this was a dichotomous variable coded as a 1 if the company issued new debt or equity in year t-1 and 0 if they did not. All of the variables related to new financing were obtained from Compustat.

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<sup>13</sup> Zmijewski's Zscore is calculated as follows:  $-4.3 - 4.5X_1 + 5.7X_2 + .004X_3$  where  $X_1$  = net income / total assets,  $X_2$  = total liabilities / total assets, and  $X_3$  = current assets / current liabilities. The probit function maps the value to a probability bounded between 0 and 1 making it easier to interpret.

<sup>14</sup> New financing was considered debt, equity, and a combination of both.

Another indicator of potential audit risk is management turnover. Huang, Parker, Yan, and Lin (2014) found mixed results in their examination of the relation between CEO turnover and audit fees. They found a positive relation when the turnover was forced but no significance when the turnover was voluntary. Feldmann et al. (2009) examined the effect of restatement and management turnover on audit fees. They found no significance between CEO turnover and audit fees but did find a negative relation between CFO change and audit fees when a restatement occurred. Once again, these were dichotomous variables coded as a 1 if the company experienced a change in CEO/CFO and 0 if they did not experience a change in year t-1. These variables were obtained from Audit Analytics – Director and Officer Change Module.

Report lag has been presumed to be an indicator of problems in an audit (Hay et al., 2006). Audit report lag (ARL) is the period of time that passes between the balance sheet date and the date of issuance of the audit report. Whisenant et al. (2003) found a positive relation between report lag and audit fees but did not include report lag as a variable in their NAS fee model. Ettredge et al. (2007) only examined audit fees and found a positive relation between report lag and audit fees. To compute this variable, I determined the number of days between the balance sheet date and the date the audit was issued as reported in Audit Analytics.

Prior literature has also included control variables for year and industry (Huang et al., 2014). Year (YEAR) was the fiscal year end and industry (INDUS) was the Standard Industrial Classification code. These variables were obtained from Compustat.

### 3.2.4 Control Variables – for the Auditor Dismissal Model (H2)

Prior studies attempted to examine the relation between changing auditors and audit firm size (typically operationalized as Big 4 vs. non-Big 4 firm). Carey et al. (2008) found no evidence that audit firm size affected a company's decision to change auditors. Schwartz and Menon (1985) examined the direction of the change when there was an auditor switch and found a higher percentage of companies switching from a Big 4 firm to a non-Big 4 firm. This was a dichotomous variable coded as a 1 if the company was audited by a Big 4 firm and 0 if it was audited by a non-Big 4 firm in year t-1 and the variable was obtained from Audit Analytics.

There has been a negative relation established in the literature between changing auditors and the size of the company being audited (SIZE) due to the high cost of changing auditors for larger companies (Krishnan, 1994; Carey et al., 2008; Mande & Son, 2013). The size of the firm is generally measured by total assets, therefore, this variable was measured by the log of total assets obtained from Compustat. When audited financial statements are restated (RESTATE), Mande and Son (2013) found a positive relation with a change in auditor in the year following the restatement. Once again, this was a dichotomous variable with a 1 indicating a financial restatement in year t-1 and 0 if no restatement has occurred. This variable was obtained from Audit Analytics.

Mande and Son (2013) expected and found that the more complex a company was; the more likely material errors would occur which could trigger a change in auditor. They measured complexity by the number of business segments (SEGS)<sup>15</sup>. The number of business segments variable was obtained from Compustat.

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<sup>15</sup> Mande and Son measured this variable as the square root of the number of business segments in order to normalize the distribution. I will calculate the variable in the same manner.

Krishnan (1994) found inconsistent results for the relation between accounts receivable and inventory (RECINC) and the type of opinions received when there were auditor changes. When comparing unqualified opinions to qualified opinions, there was a negative relation between these two assets and changing auditors. When comparing qualified opinions to GCMOs, there was a positive relation between these assets and auditor changes. This variable was measured by the total accounts receivable and inventory divided by total assets and the information was obtained from Compustat.

Prior literature has indicated when a company has a merger or acquisition (MERGER), they are more likely to switch auditors (Chow & Rice, 1982; Mande & Son, 2013). However, results have been mixed as to the significance and consistency of this relation. In the Chow and Rice (1982) study, they did not find significant results. In contrast, Mande and Son (2013) found a positive relation for some of the years observed, however, their findings were not significant for all the years observed. This was a dichotomous variable with 1 indicating that the company had merger or acquisition activity and 0 if they did not have any merger or acquisition activity in year t-1 and this variable was obtained from Compustat. The literature also indicated that firms with losses (LOSS) were more risky due to their financial distress and had a positive relation between losses and auditor changes (Krishnan, 1994; Mande & Son, 2013). Once again, loss was defined as a dichotomous variable with 1 indicating the company had negative net income in year t-1 and 0 if income was positive and this variable was obtained from Compustat.

In Mande and Son's (2013) study on auditor changes, they found a statistical difference for return on assets (ROA) for companies that changed auditors versus those

that did not change auditors who showed a more negative return on assets. However, when they ran their regression on change in auditor, return on assets was only statistically significant and negative in one of the six years studied. All other years were positive and not significant. ROA was calculated as operating income divided by total assets in year t-1 obtained from Compustat.

Prior research has indicated that when a company is under financial distress, they are more likely to switch auditors (Schwartz & Menon, 1985; Carey et al., 2008). A bankruptcy measure (ZSCORE) has been used as a proxy for financial distress showing a positive relation with change in auditor (Carey et al., 2008). Once again, Zmijewski's model was used to calculate Z-score as identified above. All of the variables in this calculation were obtained from Compustat. Higher leverage (LEV) has also transpired as a signal of financial risk. Prior research has suggested that the more financial risk a company has, the more likely they are to change auditors (Krishnan, 1994). However, Mande and Son (2013) showed mixed results where half the observed years reflected a positive relation, one year showed a negative relation, and the other two years had no significant relation. The variable was measured as total debt divided by total assets at year t-1 and was obtained from Compustat.

Internal control material weaknesses (ICMW) have been shown to have a positive relation with change in auditor (Ettredge, Heintz, Li, & Scholz, 2011). This would indicate that as companies have internal control issues, there is an increasing likelihood of a change in auditor. Once again, this was a dichotomous variable with 1 indicating the company had a material weakness in internal controls in year t-1 and 0 if they did not

have a material weakness in the current year. Data on ICMW was obtained from Audit Analytics.

Auditor tenure (TENURE) is expected to have a negative relation with change in auditor. In other words, as the tenure of auditor increases, the likelihood decreases that the company will change auditors. Auditor tenure was measured as the continuous number of years that the auditor has been engaged by the company. Data on TENURE was obtained from Audit Analytics.

### 3.2.5 Control Variables – for the Bribe Model (H5c)

Several control variables have been identified in prior studies that examined the relation between issuance of a GCMO and NAS fees. In reviewing this stream of research, the following control variables were identified.

Two studies have attempted to examine the effect of audit firm size on this relation. Fargher and Jiang (2008) found a significant negative relation between audit firm size and the issuance of a GCMO while DeFond, Raghunandan, and Subramanyam (2002) found a positive relation between audit firm size and the issuance of a going concern opinion. This was a dichotomous variable coded as a 1 if the company was audited by a Big 4 firm and 0 if it was audited by a non-Big 4 firm in year t-1 and the variable was obtained from Audit Analytics.

Two studies found a significant relation between the issuance of a GCMO and the size of the company being audited (SIZE) (Blay & Geiger, 2013; Fargher & Jiang, 2008). Both of these studies found that the relation between the issuance of a going concern opinion and the size of the company was negative. This variable was measured by the log of total assets obtained from Compustat.

Many different surrogates have been used to identify clients under financial distress. Several studies used a bankruptcy measure (generally some variation of a Z-score) as one of the control variables in their studies. However, depending on the study, the results have been mixed. Callaghan, Parkash, and Singhal (2009), Fargher and Jiang (2008), and Sharma and Sidhu (2001) all found a negative relation between the Z-score measure in their studies and the issuance of a going concern opinion while DeFond et al. (2002) found that relation to be positive. Consistent with the methodology above, measures used to create the Z-score was obtained from Compustat.

Prior literature has also used the liquidity (LIQ) of a company as a measure of client failure risk. A negative relation between the issuance of a going concern opinion and liquidity has been observed (Fargher & Jiang, 2008; Robinson, 2008). Liquidity was measured as current assets divided by current liabilities and this information was obtained from Compustat. Leverage (LEV) was another measure of the risk of a client failing. This variable has been shown to have a positive relation with the issuance of a going concern opinion (Blay & Geiger, 2013; Fargher & Jiang, 2008). Leverage was measured as total debt divided by total assets in year t and the information was obtained from Compustat.

In addition, prior literature has measured the relation between new financing (NEWFIN)<sup>16</sup> and the issuance of a going concern opinion (Fargher & Jiang, 2008; Robinson, 2008) with both studies finding that relation to be positive. Once again, this was a dichotomous variable coded as a 1 if the company issued new debt or equity in

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<sup>16</sup> Consistent with the definitions in the prior section, new financing was considered debt, equity, and a combination of both.



year t-1 and 0 if they did not. All of the variables related to new financing was obtained from Compustat.

As noted above, audit report lag (ARL) is the period of time that passes between the balance sheet date and the date of issuance of the audit report. Blay and Geiger (2013) and DeFond et al. (2002), found a positive relation between report lag and the issuance of a going concern opinion, while Callaghan et al. (2009) found a negative relation between these two variables. To compute this variable, I determined the number of days between the balance sheet date and the date the audit was issued, as reported in Audit Analytics.

Table 2  
Variable Definitions (Model H1, H3, H4 and H5a/b – Fees)

Variable	Predicted Sign	Description
<i>Alternative Dependent variables</i>		
$\Delta$ AUDIT FEES		Difference between the natural log of audit fees in year t-1 and year t (Audit Analytics)
$\Delta$ NAS FEES		Difference between the natural log of NAS fees in year t-1 and year t (Audit Analytics)
NAS FEES / AUDIT FEES		NAS fees year t divided by audit fees year t (Audit Analytics)
<i>Test Variables</i>		
GCMO (H1)	?	1 if company receives a first-time going concern modified opinion in year t-1, otherwise 0 (Audit Analytics)

$\Delta$ AUDITOR (H3, H5a/b)	?	1 if company dismissed their auditor in year t, otherwise 0 (Audit Analytics)
GCMO* $\Delta$ AUDITOR (H4, H5a/b)	?	Interaction term between first-time going concern in year t-1 and auditor dismissal in year t (Audit Analytics)

<i>Control Variables</i>		
BIG4	+	1 if auditor was a Big 4 firm in year t-1, otherwise 0 (Audit Analytics)
SIZE	+	Natural log of total assets in year t-1 (Compustat)
RESTATE	+/-	1 if there is a financial restatement in year t-1, otherwise 0 (Audit Analytics)
SEGS	+	Square root of the number of business segments in year t-1 (Compustat)
FORSEGS	+	Number of foreign segments in year t-1 (Compustat)
BM	-	Book to market equity ratio in year t-1 (Compustat)
RECINV	+	Accounts receivable and inventory divided by total assets at year t-1 (Compustat)
MERGER	+	1 if company had a merger or acquisition activity in year t-1 (Compustat)
ICMW	+	1 if company has a material weakness in internal controls in year t-1, otherwise 0 (Audit Analytics)
LOSS	+	1 if company reports a loss in year t-1, otherwise 0 (Compustat)
ROA	-	Operating income divided by total assets in year t-1 (Compustat)
ZSCORE	+/-	Zmijewski's Z score in year t-1 calculated as: $-4.3 - 4.5X_1 + 5.7X_2 + .004X_3$ where $X_1 = \text{net income} / \text{total assets}$ , $X_2 = \text{total liabilities} / \text{total assets}$ , and $X_3 = \text{currents assets} / \text{current liabilities}$ (Compustat)

LIQ	-	Current assets divided by current liabilities at year t-1 (Compustat)
LEV	+/-	Total debt divided by total assets at year t-1 (Compustat)
NEWFIN	+/-	1 if new financing (new equity or long-term debt) in year t-1, otherwise 0 (Compustat)
CEOTURN	+/-	1 if the company experienced a CEO change during the year t-1, otherwise 0 (Audit Analytics – Director and Officer Change Module)
CFOTURN	+/-	1 if the company experienced a CFO change during the year t-1, otherwise 0 (Audit Analytics – Director and Officer Change Module)
ARL	+/-	Number of days from the balance sheet date to the date the audit report is issued in year t-1 (Audit Analytics)
YEAR	+/-	Fiscal year end (Compustat)
INDUS	+/-	Standard Industrial Classification code (Compustat)
MILLS	?	Inverse Mills ratio

Table 3  
Variable Definitions (Model H2-Change in Auditor)

Variable	Predicted Sign	Description
$\Delta$ AUDITOR		1 if company dismissed their auditor in year t, otherwise 0 (Audit Analytics)

<i>Independent Variables</i>		
GCMO	+	1 if company receives a first-time going concern modified opinion in year t-1, otherwise 0 (Audit Analytics)

<i>Control Variables</i>		
BIG4	+/-	1 if auditor was a Big 4 firm in year t-1, otherwise 0 (Audit Analytics)
SIZE	-	Natural log of total assets in year t-1 (Compustat)
RESTATE	+	1 if there is a financial restatement in year t-1, otherwise 0 (Audit Analytics)
SEGS	+	Square root of the number of business segments in year t-1 (Compustat)
RECINV	+/-	Accounts receivable and inventory divided by total assets at year t-1 (Compustat)
MERGER	+/-	1 if company had a merger or acquisition activity in year t-1 (Compustat)
LOSS	+	1 if company reports a loss in year t-1, otherwise 0 (Compustat)
ROA	+/-	Operating income divided by total assets in year t-1 (Compustat)
ZSCORE	+	Zmijewski Z score (1984) in year t-1 calculated as: $-4.3 - 4.5X_1 + 5.7X_2 + .004X_3$ . Where $X_1 = \text{net income} / \text{total assets}$ , $X_2 = \text{total liabilities} / \text{total assets}$ ,

		and $X_3 = \text{currents assets} / \text{current liabilities}$ . (Compustat)
LEV	+/-	Total debt divided by total assets at year t-1 (Compustat)
ICMW	+	1 if company has a material weakness in internal controls in year t-1, otherwise 0 (Audit Analytics)
TENURE	-	The number of continuous years the auditor has been engaged by the company

Table 4  
Variable Definitions (Model H5c – Bribe Hypothesis)

Variable	Predicted Sign	Description
<i>Dependent variable</i>		
GCMO		1 if company receives a first-time going concern modified opinion in year t-1, otherwise 0 (Audit Analytics)
<i>Test Variables</i>		
NAS FEES	?	Natural log of NAS fees in year t (Audit Analytics)
ΔAUDITOR	?	1 if company dismissed their auditor in year t, otherwise 0 (Audit Analytics)
NAS FEES * ΔAUDITOR	?	Interaction term between natural log of NAS fees and auditor dismissal in year t (Audit Analytics)
<i>Control Variables</i>		
BIG4	+	1 if auditor was a Big 4 firm in year t-1, otherwise 0 (Audit Analytics)
SIZE	-	Natural log of total assets in year t-1 (Compustat)
ZSCORE	+/-	Zmijewski's Z score in year t-1 calculated as: $-4.3 - 4.5X_1 + 5.7X_2 + .004X_3$ where $X_1 = \text{net income} / \text{total assets}$ , $X_2 = \text{total liabilities} / \text{total assets}$ , and $X_3 = \text{currents assets} / \text{current liabilities}$ (Compustat)
LIQ	-	Current assets divided by current liabilities at year t-1 (Compustat)
LEV	+	Total debt divided by total assets at year t-1 (Compustat)
NEWFIN	+	1 if new financing (new equity or long-term debt) in year t-1, otherwise 0 (Compustat)
ARL	+/-	Number of days from the balance sheet date to the date the audit report is issued in year t-1 (Audit Analytics)

## CHAPTER 4 - RESULTS

### 4.1 Descriptive Statistics

Panel A of Table 5 reports the descriptive statistics for the raw audit and NAS fees paid to the auditor, the change in these fees from year to year and the dependent variables for each of the models in this study. Companies purchased an average (median) of \$1,602,748 (\$583,085) of audit fees and \$386,322 (\$59,000) of NAS fees per firm-year observation. The average change in audit fees was \$109,485 while the average change in NAS fees was a negative \$6,702. The change in the natural log of audit fees averaged 0.128 while the change in the natural log of NAS fees averaged -0.012. The average ratio of NAS fees to audit fees (NASFEES/AUDITFEES) was 26.3%. Going concern modified opinions (GCMO) were issued 13.8% of the time on average which is consistent with prior literature (Desir et al., 2014; Huang et al., 2009). There was an auditor dismissal ( $\Delta$ AUDITOR) 6.8% of the time on average. This was relatively consistent across all the years of this study (from a low of 5.4% in 2010 to a high of 8.7% in 2005).<sup>17</sup> On average, 2% of companies received a going concern opinion and dismissed auditors (untabulated).

Panel B of Table 5 reports the descriptive statistics for the control variables. For the type of auditors engaged, on average, 61.9% were Big 4 firms (BIG4). On average, audit opinions were restated 9.8% of the time (RESTATE) and 11.5% of firm-year

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<sup>17</sup> The change in auditor percentage was greater than other studies that had a similar variable. However, no prior study actually examined the same time period or the length of time period as this study.

observations received an internal control material weakness report (ICMW). On average, 43.3% of the firm-year observations reported a loss (LOSS) and 42.3% reported new financing (NEWIN). Auditors had an average of 8.6 years of tenure (TENURE) and an average lag of 76 days was found for the issuance of the audit report after fiscal year end.

Table 5  
Descriptive Statistics

Panel A: Raw Fees, Dependent Variables and Test Variables

	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Quartile 1</u>	<u>Quartile 3</u>
AUDIT FEES	1,602,748	583,085	3,100,584	155,000	1,558,860
NAS FEES	386,322	59,000	976,304	6,340	279,183
ΔAUDITFEES	109,485	12,000	633,987	-35,850	143,752
ΔNASFEES	-6,702	0	384,045	-36,300	29,500
LNΔAUDITFEES	0.128	0.043	0.570	-0.075	0.250
LNΔNASFEES	-0.012	0.000	0.890	-0.288	0.252
NASFEES / AUDITFEES	0.263	0.122	1.774	0.022	0.310
GCMO	0.138	0.000	0.344	0.000	0.000
Δ AUDITOR	0.068	0.000	0.251	0.000	0.000

Panel B: Control Variables

	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Quartile 1</u>	<u>Quartile 3</u>
BIG4	0.619	1.000	0.486	0.000	1.000
SIZE	5.202	5.430	2.852	3.489	7.172
RESTATE	0.098	0.000	0.298	0.000	0.000
SEGS	2.092	1.732	0.863	1.732	2.828
FORSEGS	4.295	2.000	6.279	0.000	6.000
BM	0.308	0.384	1.499	0.159	0.700
RECINV	0.236	0.198	0.196	0.073	0.352
MERGER	0.135	0.000	0.341	0.000	0.000
ICMW	0.115	0.000	0.320	0.000	0.000
LOSS	0.433	0.000	0.495	0.000	1.000
ROA	-0.461	0.045	2.283	-0.112	0.106
ZSCORE	8.853	5.370	16.909	4.403	6.834
LIQ	2.946	1.918	3.591	1.149	3.277
LEV	0.221	0.105	0.381	0.000	0.296
NEWFIN	0.423	0.000	0.494	0.000	1.000
CEOTURN	0.113	0.000	0.317	0.000	0.000



CFOTURN	0.151	0.000	0.358	0.000	0.000
ARL	76.453	72.000	30.955	58.000	87.000
TENURE	8.595	4.000	12.260	2.000	9.000

Variable definitions can be found in Table 2

Table 6 reports the Pearson correlation matrix for the variables. The potential for multi-collinearity is assessed at the 0.8 level (Kennedy, 2008). There are several variables whose correlations are significant and those are highlighted in bold. However, only one correlation exceeded the 0.8 threshold. The correlation between return on assets (ROA) and Z-score (ZSCORE) was -0.902. The Z-Score is a calculated variable with one of the major components of the calculation being return on assets. Therefore, it is expected that these two variables would be highly correlated. In addition, variance inflation factors (VIF) range from 1.002 to 7.629 across all variables and all models, which is below the recommended score of 10 (Kennedy, 2008).

Table 6  
Pearson Correlation Matrix

	LNA AUDITFEES	LNA NASFEES	GCMO	$\Delta$ AUDITOR	BIG4	SIZE	RESTATE	SEGS	FORSEGS	BM	RECINV
LNAAUDITFEES											
LNASASFEES	0.069										
GCMO	0.002	0.009									
$\Delta$ AUDITOR	-0.104	-0.022	0.128								
BIG4	-0.024	-0.027	-0.385	-0.108							
SIZE	-0.052	-0.029	-0.552	-0.158	0.645						
RESTATE	0.025	-0.021	-0.007	0.011	-0.006	-0.022					
SEGS	-0.040	-0.016	-0.181	-0.064	0.170	0.299	0.020				
FORSEGS	-0.031	-0.014	-0.200	-0.064	0.280	0.381	-0.025	0.092			
BM	-0.031	-0.014	-0.343	-0.023	0.123	0.243	0.012	0.097	0.089		
RECINV	-0.027	-0.004	-0.122	-0.012	-0.045	0.027	0.015	0.138	0.130	0.076	
MERGER	-0.026	-0.029	-0.097	-0.037	0.113	0.201	-0.014	0.070	0.112	0.046	-0.008
ICMW	-0.033	-0.010	0.245	0.099	-0.185	-0.200	0.022	-0.065	-0.066	-0.071	-0.029
LOSS	-0.038	-0.017	0.336	0.054	-0.246	-0.410	0.016	-0.111	-0.156	-0.135	-0.135
ROA	-0.002	-0.003	-0.476	-0.073	0.257	0.483	0.002	0.104	0.148	0.248	0.111
ZSCORE	-0.012	-0.001	0.445	0.058	-0.218	-0.406	-0.004	-0.072	-0.131	-0.294	-0.083
LIQ	0.006	0.002	-0.176	-0.026	0.005	-0.044	-0.006	-0.027	-0.020	0.137	-0.110
LEV	-0.029	-0.013	0.184	-0.005	-0.016	-0.001	-0.002	0.013	-0.068	-0.305	-0.056
NEWFIN	-0.014	-0.023	-0.144	-0.045	0.185	0.321	0.003	0.135	0.105	0.051	0.037
CEOTURN	-0.041	0.001	0.086	0.035	-0.067	-0.060	0.005	-0.033	-0.027	-0.020	-0.011
CFOTURN	-0.047	-0.007	0.045	0.033	-0.059	-0.021	0.016	-0.010	-0.014	-0.001	-0.007
ARL	-0.008	0.004	0.233	0.074	-0.151	-0.228	-0.023	-0.044	-0.066	-0.086	-0.022

Note: Variable definitions can be found in Table 2  
Correlation significant at the  $p < 0.05$  level are in bold (2-tailed).

Table 6  
Pearson Correlation Matrix (continued)

	MERGER	ICMW	LOSS	ROA	ZSCORE	LIQ	LEV	NEWFIN	CEOTURN	CFOTURN
MERGER										
ICMW	-0.032									
LOSS	-0.068	0.132								
ROA	0.067	-0.171	-0.294							
ZSCORE	-0.050	0.160	0.288	-0.902						
LIQ	-0.041	-0.071	0.057	0.112	-0.136					
LEV	0.013	0.020	0.126	-0.179	0.381	-0.209				
NEWFIN	0.093	-0.066	-0.098	0.109	-0.046	-0.150	0.223			
CEOTURN	0.005	0.092	0.100	-0.052	0.047	-0.019	0.014	-0.024		
CFOTURN	0.017	0.114	0.080	-0.021	0.020	-0.010	0.000	-0.015	0.250	
ARL	-0.072	0.248	0.174	-0.159	0.155	-0.058	0.062	-0.039	0.022	0.015

Variable definitions can be found in Table 2.

Correlation significant at the  $p < 0.05$  level are in bold (2-tailed).

## 4.2 Hypotheses Results

The results of Hypotheses 1a and 3a are presented in Table 7. Hypotheses 1a and 3a use the same dependent variable,  $\Delta\text{AUDITFEES}$ <sup>18</sup>, with hypothesis 1a using GCMO as the variable of interest and hypothesis 3a using  $\Delta\text{AUDITOR}$  as the variable of interest. The overall F statistic for this model was 38.162 which is significant ( $p = .000$ ) with an adjusted  $R^2$  of 0.066. Coefficients for industry and year indicator variables are included but not reported for expositional purposes<sup>19</sup>.

Hypothesis 1a predicted a positive relation between a first-time GCMO and the change in audit fees. The results indicate that GCMO is statistically significant ( $p = .001$ ), however, the relation is negative indicating that audit fees decreased when a first time GCMO was received. This hypothesis is not supported. One potential explanation for these results is that firms receiving a first-time GCMO are in financial distress and therefore are seeking ways to reduce costs including their audit fee<sup>20</sup>.

Hypothesis 3a predicted a relation, but no expected direction, between auditor dismissal and the change in audit fees. This hypothesis is supported as the results indicate that  $\Delta\text{AUDITOR}$  has a negative and statistically significant ( $p = .000$ ) relation to  $\Delta\text{AUDITFEES}$  suggesting that when an auditor dismissal occurs, audit fees decline.

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<sup>18</sup> As noted in the methodology section above, the dependent variables  $\Delta\text{AUDITFEES}$  and  $\Delta\text{NASFEES}$  are calculated as the difference between the natural log of the respective fees in year t-1 and year t. I also used the percentage change in respective fees from the prior year as an alternative dependent variable with no substantive difference in the results.

<sup>19</sup> I also analyzed this model without the Mills ratio and found consistent results. The overall F statistic for this model without the Mills Ratio was 38.203 which was significant ( $p = .000$ ) with an adjusted  $R^2 = 0.065$ .

<sup>20</sup> I also analyzed this model with GCMO as the only independent variable of interest with the same control variables (i.e., removed  $\Delta\text{AUDITOR}$  from the model). The results were qualitatively the same – the F-statistic for the model was 29.962 ( $p = .000$ ) with an adjusted  $R^2$  of 0.052 and GCMO was significant and negatively related to  $\Delta\text{AUDITFEES}$ .

For the control variables, MERGER, NEWFIN, and ARL, these are all positive and statistically significantly ( $p = .014, .053, .000$ , respectively) related to  $\Delta$ AUDITFEES which is consistent with prior literature (Elliott et al., 2013; Ettredge et al., 2007; Whisenant et al., 2003). The results for BIG4, SIZE, SEGS, RECINV, ICMW, and LOSS (all have a  $p = .000$ ) have a negative association with  $\Delta$ AUDITFEES which was not seen in prior research. The variables BM, ROA, and LIQ ( $p = .000, .023, .026$ , respectively) are negative and significantly associated with  $\Delta$ AUDIT FEES which is also consistent with prior literature (Ashbaugh et al., 2003; Whisenant et al., 2003). Although I did not predict a direction, ZSCORE, LEV, CEOTURN, CFOTURN, and MILLS ( $p = .005, .000, .093, .072, \text{ and } .000$ , respectively) are negative and statistically associated with  $\Delta$ AUDITFEES. RESTATE and FORSEGS are not statistically significant.

Table 7  
Regression of AUDIT FEES on GCMO and  $\Delta$ AUDITOR

$$\Delta\text{AUDIT FEES}_t = \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \Delta\text{AUDITOR}_t + \beta_3 \text{BIG } 4_{t-1} + \beta_4 \text{SIZE}_{t-1} + \beta_5 \text{RESTATE}_{t-1} + \beta_6 \text{SEGS}_{t-1} + \beta_7 \text{FORSEGS}_{t-1} + \beta_8 \text{BM}_{t-1} + \beta_9 \text{RECINV}_{t-1} + \beta_{10} \text{MERGER}_{t-1} + \beta_{11} \text{ICMW}_{t-1} + \beta_{12} \text{LOSS}_{t-1} + \beta_{13} \text{ROA}_{t-1} + \beta_{14} \text{ZSCORE}_{t-1} + \beta_{15} \text{LIQ}_{t-1} + \beta_{16} \text{LEV}_{t-1} + \beta_{17} \text{NEWFIN}_{t-1} + \beta_{18} \text{CEOTURN}_{t-1} + \beta_{19} \text{CFOTURN}_{t-1} + \beta_{20} \text{ARL}_{t-1} + \beta_{21} \text{YEAR}_{t-1} + \beta_{22} \text{INDUS}_{t-1} + \beta_{23} \text{MILLS}_t + \varepsilon$$

Variable	Expected Sign	Coefficient	T-stat	p-value	
Intercept		0.700	30.478	0.000	
GCMO	?	-0.032	-3.167	0.001	***
$\Delta$ AUDITOR	?	-0.277	-27.249	0.000	***
BIG4	+	-0.038	-5.364	0.000	***
SIZE	+	-0.007	-3.609	0.000	***
RESTATE	+/-	0.011	1.450	0.147	
SEGS	+	-0.016	-5.697	0.000	***
FORSEGS	+	0.000	-0.881	0.189	
BM	-	-0.013	-4.979	0.000	***
RECINV	+	-0.154	-9.676	0.000	***
MERGER	+	0.019	2.203	0.014	**
ICMW	+	-0.033	-3.422	0.000	***
LOSS	+	-0.078	-13.142	0.000	***

ROA	-	-0.008	-2.001	0.023	**
ZSCORE	+/-	-0.002	-2.817	0.005	***
LIQ	-	-0.002	-1.939	0.026	**
LEV	+/-	-0.042	-4.278	0.000	***
NEWFIN	+/-	0.011	1.938	0.053	*
CEOTURN	+/-	-0.015	-1.677	0.093	*
CFOTURN	+/-	-0.014	-1.798	0.072	*
ARL	+/-	0.000	4.240	0.000	***
MILLS	?	-0.065	-5.671	0.000	***
Industries		included			
Years		included			
Observations		48,414			
Adjusted R <sup>2</sup>		0.066	***		

Variable definitions can be found in Table 2.

The p-values are one-tailed for variables with an expected sign and two-tailed otherwise. (\*\*\*) , (\*\*), (\*) denote significance at the 0.01, 0.05, and .0.10 levels, respectively.

The results of Hypotheses 1b and 3b are presented in Table 8. Hypotheses 1b and 3b use the same dependent variable  $\Delta$ NASFEES with hypothesis 1b using GCMO as the variable of interest and hypothesis 3b using  $\Delta$ AUDITOR as the variable of interest. The overall F-Statistic for this model is 4.212 and significant ( $p = .000$ ) and the adjusted R<sup>2</sup> is 0.006. Once again, coefficients for industry and year indicator variables are included but not reported for expositional purposes<sup>21</sup>.

Hypothesis 1b predicts a relation, but no expected direction, between a first-time going concern modified opinion and the change in NAS fees. The results indicate that GCMO is not statistically associated ( $p = .273$ ) with  $\Delta$ NASFEES and therefore, this hypothesis is not supported.

<sup>21</sup> I also analyzed this model without the Mills ratio being included and found consistent results. The overall F-statistic for this model without the Mills Ratio was 4.239 which was significant ( $p = .000$ ) with an adjusted R<sup>2</sup> of 0.006.

Hypothesis 3b predicts a relation, but no expected direction, between auditor dismissal and the change in NAS fees. This hypothesis is supported as the results indicate that  $\Delta$ AUDITOR has a negative statistically significant ( $p = .000$ ) relation to  $\Delta$ NASFEES which suggests that when an auditor dismissal occurs, NAS fees decline.

The control variable book to market value (BM) is negative and significantly ( $p = .003$ ) related to  $\Delta$ NASFEES which is consistent with prior literature (Ashbaugh et al., 2003). The results for SIZE, MERGER, ICMW, and LOSS ( $p = .001, .000, .000, .000$ , respectively) have a negative association with  $\Delta$ NASFEES which is not consistent with prior research. Although I did not predict a direction, RESTATE, LEV, and NEWFIN ( $p = .000, .056, \text{ and } .040$  respectively) are negative and statistically associated with  $\Delta$ NASFEES. No other control variables are statistically significant.

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Table 8  
Regression of NAS FEES on GCMO and  $\Delta$ AUDITOR

$$\Delta \text{NASFEES}_t = \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \Delta \text{AUDITOR}_t + \beta_3 \text{BIG } 4_{t-1} + \beta_4 \text{SIZE}_{t-1} + \beta_5 \text{RESTATE}_{t-1} + \beta_6 \text{SEGS}_{t-1} + \beta_7 \text{FORSEGS}_{t-1} + \beta_8 \text{BM}_{t-1} + \beta_9 \text{RECINV}_{t-1} + \beta_{10} \text{MERGER}_{t-1} + \beta_{11} \text{ICMW}_{t-1} + \beta_{12} \text{LOSS}_{t-1} + \beta_{13} \text{ROA}_{t-1} + \beta_{14} \text{ZSCORE}_{t-1} + \beta_{15} \text{LIQ}_{t-1} + \beta_{16} \text{LEV}_{t-1} + \beta_{17} \text{NEWFIN}_{t-1} + \beta_{18} \text{CEOTURN}_{t-1} + \beta_{19} \text{CFOTURN}_{t-1} + \beta_{20} \text{ARL}_{t-1} + \beta_{21} \text{YEAR}_{t-1} + \beta_{22} \text{INDUS}_{t-1} + \beta_{23} \text{MILLS}_t + \epsilon$$


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<u>Variable</u>	<u>Expected Sign</u>	<u>Coefficient</u>	<u>T-stat</u>	<u>p-value</u>	
Intercept		0.170	4.607	0.000	
GCMO	?	-0.018	-1.097	0.273	
$\Delta$ AUDITOR	?	-0.090	-5.510	0.000	***
BIG4	+	-0.017	-1.494	0.135	
SIZE	+	-0.009	-2.969	0.001	***
RESTATE	+/-	-0.051	-3.973	0.000	***
SEGS	+	-0.002	-0.499	0.309	
FORSEGS	+	0.000	-0.461	0.322	
BM	-	-0.012	-2.790	0.003	***
RECINV	+	-0.010	-0.398	0.345	
MERGER	+	-0.086	-6.199	0.000	***

ICMW	+	-0.056	-3.542	0.000	***
LOSS	+	-0.059	-6.259	0.000	***
ROA	-	0.005	0.856	0.196	
ZSCORE	+/-	0.000	0.337	0.736	
LIQ	-	-0.001	-1.101	0.135	
LEV	+/-	-0.030	-1.911	0.056	*
NEWFIN	+/-	-0.019	-2.054	0.040	**
CEOTURN	+/-	0.010	0.708	0.479	
CFOTURN	+/-	-0.014	-1.104	0.270	
ARL	+/-	0.000	0.237	0.813	
MILLS	?	-0.025	-1.343	0.179	
Industries		included			
Years		included			
Observations		48,414			
Adjusted R <sup>2</sup>		0.006	***		

Variable definitions can be found in Table 2.

The p-values are one-tailed for variables with an expected sign and two-tailed otherwise. (\*\*\*) , (\*\*), (\*) denote significance at the 0.01, 0.05, and .0.10 levels, respectively.

Hypothesis 2 posits a positive relation between auditor dismissal ( $\Delta$ AUDITOR) and GCMO. The results for Hypothesis 2 are presented in Table 9. The Nagelkerke pseudo R<sup>2</sup> is 0.088 and the model Chi Square is statistically significant at 0.000.

Consistent with hypothesis 2, the results indicate that there is a positive relation between  $\Delta$ AUDITOR and GCMO ( $p = .000$ ). As a company receives a first time going concern opinion, it is more likely to dismiss auditors. For the control variables, RESTATE and ICMW are positive and significantly associated with changing auditors ( $p = .041$  and  $.000$ , respectively), consistent with prior literature (Ettredge et al., 2007; Mande & Son, 2013). The results for SIZE and TENURE are negatively and significantly associated with changing auditors ( $p = .000$ , and  $.000$ , respectively), consistent with prior research (Carey et al., 2008; Mande & Son, 2013). Conflicting with



previous research, the results for SEGS and LOSS are negatively and significantly associated with changing auditors ( $p = .008$  and  $.002$ , respectively). Although I did not predict a direction, RESTATE and ROA have a positive and significant relation and LEV has a negative significant relationship with changing auditors ( $p = .041$ ,  $.047$ , and  $.099$ , respectively). The control variables RECINV, MERGER, and ZSCORE were not found to be significant.

Table 9  
Regression of  $\Delta$ AUDITOR on GCMO

$$\Delta\text{AUDITOR}_{t-1} = \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \text{BIG 4}_{t-1} + \beta_3 \text{SIZE}_{t-1} + \beta_4 \text{RESTATE}_{t-1} + \beta_5 \text{SEGS}_{t-1} + \beta_6 \text{RECINV}_{t-1} + \beta_7 \text{MERGER}_{t-1} + \beta_8 \text{LOSS}_{t-1} + \beta_9 \text{ROA}_{t-1} + \beta_{10} \text{ZSCORE}_{t-1} + \beta_{11} \text{LEV}_{t-1} + \beta_{12} \text{ICMW}_{t-1} + \beta_{13} \text{TENURE}_{t-1} + \varepsilon$$

Variable	Expected Sign	Coefficient	Wald	p-value	
Constant		-1.666	707.996	0.000	
GCMO	+	0.332	33.449	0.000	***
BIG4	+/-	0.129	6.673	0.010	*
SIZE	-	-0.153	189.359	0.000	***
RESTATE	+	0.113	4.180	0.041	**
SEGS	+	-0.060	6.965	0.008	***
RECINV	+/-	0.139	2.437	0.118	
MERGER	+/-	-0.075	1.011	0.315	
LOSS	+	-0.126	9.238	0.002	***
ROA	+/-	0.039	3.947	0.047	**
ZSCORE	+	-0.001	0.087	0.769	
LEV	+/-	-0.091	2.729	0.099	*
ICMW	+	0.587	136.702	0.000	***
TENURE	-	-0.064	187.731	0.000	***
Observations		48,414			
Pseudo R <sup>2</sup>		.088			
Chi Square		1690.416	***		

Variable definitions can be found in Table 3.

The p-values are one-tailed for variables with an expected sign and two-tailed otherwise. (\*\*\*) (\*\*), (\*) denote significance at the 0.01, 0.05, and 0.10 levels, respectively.

Hypothesis 4a posits that there is a change in the relation between an auditor dismissal and the change in audit fees when there is the issuance of a first-time GCMO. The results for Hypothesis 4a are presented in Table 10. The overall F-statistic is 42.107 and significant ( $p = .000$ ) and the adjusted  $R^2$  is 0.073. Coefficients for industry and year indicator variables are included but not reported for expositional purposes.

The variable of interest in this hypothesis,  $GCMO * \Delta AUDITOR$ , is positive and significantly associated with the change in audit fees ( $p = .000$ ). As indicated in the Hypotheses 3a results above, the relationship between auditor dismissal and the change in audit fees was found to be negative and significant. Therefore, the positive relationship of this interaction variable indicates support for Hypothesis 4a – a first-time GCMO has a moderating effect on the relation between auditor dismissal and the change in audit fees.

For the control variables,  $MERGER$  is positive and significant ( $p = .015$ ), consistent with prior literature (Ashbaugh et al., 2003; Elliott et al., 2013). Similar to prior research, the control variables that have a negative relation and significant are  $BM$ ,  $ROA$ , and  $LIQ$  ( $p = .000$ ,  $.013$ , and  $.031$ , respectively) (Ashbaugh et al., 2003; Raghunandan & Rama, 2006; Whisenant et al., 2003). Opposite to the expected direction,  $BIG4$ ,  $SIZE$ ,  $SEGS$ ,  $RECINV$ ,  $ICMW$ , and  $LOSS$  are all negative and significant (all have a  $p = .000$ ). Not predicting a direction, I find that  $NEWFIN$  and  $ARL$  are positive and significant ( $p = .055$  and  $.000$ ) while  $ZSCORE$ ,  $LEV$ ,  $CEOTURN$ ,  $CFOTURN$ , and  $MILLS$  are negative and significant ( $p = .002$ ,  $.000$ ,  $.064$ ,  $.057$ , and  $.000$ , respectively).  $RESTATE$  and  $FORSEGS$  are not found to be significant.

**Table 10**  
**Regression of AUDIT FEES on GCMO \* ΔAUDITOR**

$$\Delta \text{AUDIT FEES}_t = \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \Delta \text{AUDITOR}_t + \beta_3 \text{GCMO}_{t-1} * \Delta \text{AUDITOR}_t + \beta_4 \text{BIG 4}_{t-1} + \beta_5 \text{SIZE}_{t-1} + \beta_6 \text{RESTATE}_{t-1} + \beta_7 \text{SEGS}_{t-1} + \beta_8 \text{FORSEGS}_{t-1} + \beta_9 \text{BM}_{t-1} + \beta_{10} \text{RECINV}_{t-1} + \beta_{11} \text{MERGER}_{t-1} + \beta_{12} \text{ICMW}_{t-1} + \beta_{13} \text{LOSS}_{t-1} + \beta_{14} \text{ROA}_{t-1} + \beta_{15} \text{ZSCORE}_{t-1} + \beta_{16} \text{LIQ}_{t-1} + \beta_{17} \text{LEV}_{t-1} + \beta_{18} \text{NEWFIN}_{t-1} + \beta_{19} \text{CEOTURN}_{t-1} + \beta_{20} \text{CFOTURN}_{t-1} + \beta_{21} \text{ARL}_{t-1} + \beta_{22} \text{YEAR}_{t-1} + \beta_{23} \text{INDUS}_{t-1} + \beta_{24} \text{MILLS}_t + \varepsilon$$

<u>Variable</u>	<u>Expected Sign</u>	<u>Coefficients</u>	<u>T-stat</u>	<u>p-value</u>	
Intercept		0.709	30.991	0.000	
GCMO	?	-0.092	-8.672	0.000	***
ΔAUDITOR	?	-0.396	-33.458	0.000	***
GCMO * ΔAUDITOR	?	0.441	19.433	0.000	***
BIG4	+	-0.040	-5.604	0.000	***
SIZE	+	-0.007	-3.485	0.000	***
RESTATE	+/-	0.011	1.453	0.146	
SEGS	+	-0.015	-5.335	0.000	***
FORSEGS	+	0.000	-0.980	0.164	
BM	-	-0.014	-5.237	0.000	***
RECINV	+	-0.149	-9.399	0.000	***
MERGER	+	0.019	2.162	0.015	**
ICMW	+	-0.033	-3.376	0.000	***
LOSS	+	-0.073	-12.394	0.000	***
ROA	-	-0.009	-2.214	0.013	**
ZSCORE	+/-	-0.002	-3.093	0.002	***
LIQ	-	-0.001	-1.860	0.031	**
LEV	+/-	-0.039	-3.949	0.000	***
NEWFIN	+/-	0.011	1.918	0.055	*
CEOTURN	+/-	-0.016	-1.849	0.064	*
CFOTURN	+/-	-0.015	-1.905	0.057	*
ARL	+/-	0.000	4.301	0.000	***
MILLS	?	-0.069	-6.084	0.000	***
Industries		included			
Years		included			
Observations		48,414			
Adjusted R <sup>2</sup>		0.073	***		

Variable definitions can be found in Table 2.

The p-values are one-tailed for variables with an expected sign and two-tailed otherwise. (\*\*\*), (\*\*), (\*) denote significance at the 0.01, 0.05, and .0.10 levels, respectively.

Hypothesis 4b posits that there is a change in the relation between an auditor dismissal and the change in NAS fees when there is the issuance of a first-time GCMO. Hypothesis 5a posits a company receiving a first-time GCMO purchases additional NAS from their new auditor in order to compensate the auditor for engaging with a more risky client. The results for Hypothesis 4b and 5a are presented in Table 11. The overall F-statistic is 4.312 and significant ( $p = .000$ ) and the adjusted  $R^2$  is 0.006. Again, coefficients for industry and year indicator variables are included but not reported for expositional purposes.

The variable of interest for Hypothesis 4b,  $GCMO * \Delta AUDITOR$ , is positive and significantly associated with the change in NAS fees ( $p = .000$ ). As indicated in the hypothesis 3b results above, the relationship between auditor dismissal and NAS fees was found to be negative and significant. Therefore, the positive relationship of this interaction variable indicates support for hypothesis 4b – a first-time GCMO has a moderating effect on the relation between auditor dismissal and the change in NAS fees.

The test of client riskiness in Hypothesis 5a examines the coefficients of  $\Delta AUDITOR$  ( $\beta_2$ ) and  $GCMO * \Delta AUDITOR$  ( $\beta_3$ ) in this model. Specifically, the test for this hypothesis is whether the coefficients for  $\beta_2$  ( $\Delta AUDITOR$ ) +  $\beta_3$  ( $GCMO * \Delta AUDITOR$ ) is greater than zero. The  $\beta_2$  ( $\Delta AUDITOR$ ) coefficient is -0.126 and the  $\beta_3$  ( $GCMO * \Delta AUDITOR$ ) coefficient is 0.134 for a total of 0.006 which is not statistically significantly greater than zero ( $p = .799$ ), indicating no support for this hypothesis. In other words, a client does not necessarily purchase additional NAS to compensate the auditor for the additional risk associated with the issuance of a first-time GCMO.

The control variable BM has a negative and significant relation ( $p = .005$ ), which is consistent with prior literature (Ashbaugh et al., 2003; Whisenant et al., 2003).

Opposite to the expected direction, SIZE, MERGER, ICMW, and LOSS are negative and significant ( $p = .003, .000, .000, \text{ and } .000$ , respectively). Not predicting a direction, I found RESTATE, LEV, and NEWFIN are negative and significant ( $p = .000, .065, \text{ and } .039$ , respectively). All other variables are not significant.

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Table 11  
Regression of NAS FEES on GCMO \*  $\Delta$ AUDITOR

$$\Delta \text{NAS FEES}_t = \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \Delta \text{AUDITOR}_t + \beta_3 \text{GCMO}_{t-1} * \Delta \text{AUDITOR}_t + \beta_4 \text{BIG 4}_{t-1} + \beta_5 \text{SIZE}_{t-1} + \beta_6 \text{RESTATE}_{t-1} + \beta_7 \text{SEGS}_{t-1} + \beta_8 \text{FORSEGS}_{t-1} + \beta_9 \text{BM}_{t-1} + \beta_{10} \text{RECINV}_{t-1} + \beta_{11} \text{MERGER}_{t-1} + \beta_{12} \text{ICMW}_{t-1} + \beta_{13} \text{LOSS}_{t-1} + \beta_{14} \text{ROA}_{t-1} + \beta_{15} \text{ZSCORE}_{t-1} + \beta_{16} \text{LIQ}_{t-1} + \beta_{17} \text{LEV}_{t-1} + \beta_{18} \text{NEWFIN}_{t-1} + \beta_{19} \text{CEOTURN}_{t-1} + \beta_{20} \text{CFOTURN}_{t-1} + \beta_{21} \text{ARL}_{t-1} + \beta_{22} \text{YEAR}_{t-1} + \beta_{23} \text{INDUS}_{t-1} + \beta_{24} \text{MILLS}_t + \varepsilon$$


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Variable	Expected Sign	Coefficients	T-stat	p-value	
Intercept		0.173	4.682	0.000	
GCMO	?	-0.036	-2.112	0.035	**
$\Delta$ AUDITOR	?	-0.126	-6.612	0.000	***
GCMO * $\Delta$ AUDITOR	?	0.134	3.666	0.000	***
BIG4	+	-0.018	-1.535	0.125	
SIZE	+	-0.009	-2.944	0.003	***
RESTATE	+/-	-0.051	-3.974	0.000	***
SEGS	+	-0.002	-0.427	0.670	
FORSEGS	+	0.000	-0.479	0.632	
BM	-	-0.012	-2.836	0.005	***
RECINV	+	-0.009	-0.339	0.735	
MERGER	+	-0.086	-6.210	0.000	***
ICMW	+	-0.056	-3.531	0.000	***
LOSS	+	-0.058	-6.106	0.000	***
ROA	-	0.005	0.817	0.414	
ZSCORE	+/-	0.000	0.287	0.774	
LIQ	-	-0.001	-1.085	0.278	
LEV	+/-	-0.029	-1.846	0.065	*
NEWFIN	+/-	-0.019	-2.060	0.039	**
CEOTURN	+/-	0.010	0.677	0.498	

CFOTURN	+/-	-0.014	-1.123	0.261
ARL	+/-	0.000	0.246	0.806
MILLS	?	-0.026	-1.417	0.157
Industries		Included		
Years		Included		
Observations		48,414		
Adjusted R <sup>2</sup>		0.006	***	

Variable definitions can be found in Table 2.

The p-values are one-tailed for variables with an expected sign and two-tailed otherwise. (\*\*\*) , (\*\*), (\*) denote significance at the 0.01, 0.05, and .010 levels, respectively.

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Hypothesis 5b posits a company receiving a first-time GCMO purchases additional NAS from their new auditor to compensate the auditor for lowballing their audit fee. The results for Hypothesis 5b are presented in Table 12. The dependent variable in this table is the ratio of NAS fees to audit fees and the variables of interest are  $\Delta$ AUDITOR and GCMO\* $\Delta$ AUDITOR. As the dependent variable in this test includes audit fees in the denominator, there is a concern that small denominators may cause extreme observations to drive the results. To mitigate this issue, I remove observations with audit fees that are less than or equal to \$1,000 which results in the removal of seven observations<sup>22</sup>. The F-statistic for this model is 14.249 ( $p = .000$ ) and the adjusted R<sup>2</sup> is 0.025.

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<sup>22</sup> A review of the extant literature resulted in only one other study that discussed the “small denominator” effect (Huang et al., 2009). In that study, a \$25,000 threshold was utilized to adjust for this issue. Applying that same threshold in this study would result in the elimination of approximately 5% of my observations while Huang’s threshold eliminated only 1% of their observations. Therefore, the \$1,000 threshold was chosen to limit the number of observations excluded from this analysis. Additionally, using the threshold from Huang’s study does not change the main result – the sum of the variables of interest is still not statistically significantly greater than zero ( $p = .300$ )

An additional 512 observations were also excluded from this model because audit fees were zero and therefore, the dependent variable (the ratio of NAS Fees to Audit Fees) could not be calculated.

The test in Hypothesis 5b is whether the sum of the coefficients for  $\Delta$ AUDITOR ( $\beta_2$ ) and  $GCMO * \Delta$ AUDITOR ( $\beta_3$ ) is greater than zero. The  $\beta_2$  ( $\Delta$ AUDITOR) coefficient is 0.152 and the  $\beta_3$  ( $GCMO * \Delta$ AUDITOR) coefficient is -0.156 for a total of -0.004. Once again, this sum is not statistically significantly greater than zero ( $p = .814$ ), which indicates that a client does not purchase additional NAS to compensate the auditor for lowballing the audit fee (i.e., Hypothesis 5b is not supported).

The control variables SIZE, FORSEGS, and MERGER have a positive and significant relation ( $p = .000$ , .044, and .011, respectively), which is consistent with prior literature (Elliott et al., 2013; Desire et al., 2014). Similar to prior research, the control variables that have a negative and significant relation are BM and LIQ ( $p = .013$  and .001, respectively) (Ashbaugh et al., 2003; Raghunandan & Rama, 2006; Whisenant et al., 2003). Opposite to the expected direction, ICMW, and LOSS are negative and significant ( $p = .066$  and .000, respectively). Not predicting a direction, I found GCMO, CFOTURN, and MILLS are negative and significant ( $p = .008$ , .057, and .042, respectively). All other variables are not significant.

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Table 12  
Regression of NAS FEE to AUDIT FEE RATIO on  $GCMO * \Delta$ AUDITOR

$$\text{NAS FEES}_t / \text{AUDIT FEES}_t = \beta_0 + \beta_1 \text{GCMO}_{t-1} + \beta_2 \Delta \text{AUDITOR}_t + \beta_3 \text{GCMO}_{t-1} * \Delta \text{AUDITOR}_t + \beta_4 \text{BIG 4}_{t-1} + \beta_5 \text{SIZE}_{t-1} + \beta_6 \text{RESTATE}_{t-1} + \beta_7 \text{SEGS}_{t-1} + \beta_8 \text{FORSEGS}_{t-1} + \beta_9 \text{BM}_{t-1} + \beta_{10} \text{RECINV}_{t-1} + \beta_{11} \text{MERGER}_{t-1} + \beta_{12} \text{ICMW}_{t-1} + \beta_{13} \text{LOSS}_{t-1} + \beta_{14} \text{ROA}_{t-1} + \beta_{15} \text{ZSCORE}_{t-1} + \beta_{16} \text{LIQ}_{t-1} + \beta_{17} \text{LEV}_{t-1} + \beta_{18} \text{NEWFIN}_{t-1} + \beta_{19} \text{CEOTURN}_{t-1} + \beta_{20} \text{CFOTURN}_{t-1} + \beta_{21} \text{ARL}_{t-1} + \beta_{22} \text{YEAR}_{t-1} + \beta_{23} \text{INDUS}_{t-1} + \beta_{24} \text{MILLS}_t + \varepsilon$$

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<u>Variable</u>	<u>Expected Sign</u>	<u>Coefficients</u>	<u>T-Stat</u>	<u>p-value</u>	
Intercept		0.468	19.607	0.000	
GCMO	?	-0.030	-2.645	0.008	***
$\Delta$ AUDITOR	?	0.152	12.080	0.000	***
$GCMO * \Delta$ AUDITOR	?	-0.156	-6.525	0.000	***
BIG4	+	0.012	1.593	0.111	
SIZE	+	0.007	3.548	0.000	***

RESTATE	+/-	-0.011	-1.277	0.202	
SEGS	+	-0.001	0.229	0.819	
FORSEGS	+	0.001	2.014	0.044	**
BM	-	-0.007	-2.485	0.013	**
RECINV	+	-0.011	-0.664	0.507	
MERGER	+	0.023	2.557	0.011	**
ICMW	+	-0.019	-1.839	0.066	*
LOSS	+	-0.026	-4.243	0.000	***
ROA	-	0.006	1.486	0.137	
ZSCORE	+/-	0.001	1.136	0.256	
LIQ	-	-0.003	-3.185	0.001	***
LEV	+/-	0.005	-0.522	0.602	
NEWFIN	+/-	0.009	1.592	0.111	
CEOTURN	+/-	0.008	0.870	0.384	
CFOTURN	+/-	-0.016	-1.903	0.057	*
ARL	+/-	0.000	-1.213	0.225	
MILLS	?	-0.024	-2.032	0.042	**
Industries		Included			
Years		Included			
Observations		47,895			
Adjusted R <sup>2</sup>		0.025	***		

Variable definitions can be found in Table 3.

The p-values are one-tailed for variables with an expected sign and two-tailed otherwise. (\*\*\*) , (\*\*), (\*) denote significance at the 0.01, 0.05, and .0.10 levels, respectively.

Hypothesis 5c posits a company receiving a first-time GCMO purchases additional NAS from their new auditor in order to receive a better opinion. The results for the Hypothesis 5c model are presented in Table 13. The dependent variable in Table 13 is GCMO and the variables of interest are the  $\Delta$ AUDITOR and NASFEES\* $\Delta$ AUDITOR. The Nagelkerke pseudo R<sup>2</sup> for this model is 0.530 and the model Chi Square is significant at 0.000.

The test in Hypothesis 5c is whether the sum of the coefficients for  $\Delta$ AUDITOR ( $\beta_2$ ) and NASFEES\* $\Delta$ AUDITOR ( $\beta_3$ ) is less than zero. The  $\beta_2$  ( $\Delta$ AUDITOR) coefficient



is 0.069 and the  $\beta_3$  (NASFEES\* $\Delta$ AUDITOR) coefficient is 0.000 for a sum of 0.069 which again is not statistically significantly different than zero ( $p = .258$ ) indicating that a client does not purchase additional NAS to receive a better opinion (i.e., hypothesis 5c is not supported).

Consistent with prior literature, the control variable LEV is positive and significant ( $p = .000$ ) (Blay & Geiger, 2013; Fargher & Jiang, 2008). As predicted based on prior literature, SIZE and LIQ are negative and significant (both have a  $p = .000$ ) (Blay & Geiger, 2013; Fargher & Jiang, 2008). Inconsistent with prior literature, BIG4 and NEWFIN are negative and significant (both have a  $p = .000$ ). Not predicting a direction, I found ZSCORE and ARL positive and significant (both with a  $p = .000$ ).

Table 13  
Regression of GCMO on NAS FEES and  $\Delta$ AUDITOR

$$GCMO_t = \beta_0 + \beta_1 \text{NAS FEES}_t + \beta_2 \Delta\text{AUDITOR}_t + \beta_3 \text{NAS FEES}_t * \Delta\text{AUDITOR}_t + \beta_4 \text{BIG 4}_{t-1} + \beta_5 \text{SIZE}_{t-1} + \beta_6 \text{ZSCORE}_{t-1} + \beta_7 \text{LIQ}_{t-1} + \beta_8 \text{LEV}_{t-1} + \beta_9 \text{NEWFIN}_{t-1} + \beta_{10} \text{ARL}_{t-1} + \varepsilon$$

<u>Variable</u>	<u>Expected Sign</u>	<u>Coefficient</u>	<u>Wald</u>	<u>p-value</u>	
Intercept		-0.360	44.289	0.000	
NAS FEES	?	0.000	0.167	0.683	
$\Delta$ AUDITOR	?	0.069	1.282	0.258	
NASFEES* $\Delta$ AUDITOR	?	0.000	4.870	0.027	**
BIG4	+	-0.513	123.425	0.000	***
SIZE	-	-0.585	3065.243	0.000	***
ZSCORE	+/-	0.027	112.131	0.000	***
LIQ	-	-0.081	215.393	0.000	***
LEV	+	0.661	133.597	0.000	***
NEWFIN	+	-0.112	7.244	0.007	***
ARL	+/-	0.008	342.999	0.000	***
Observations		48,414			
Pseudo R <sup>2</sup>		0.530			
Chi Square		16,735.8	***		

Variable definitions can be found in Table 4.

The p-values are one-tailed for variables with an expected sign and two-tailed otherwise. (\*\*\*) (\*\*), (\*) denote significance at the 0.01, 0.05, and .0.10 levels, respectively.

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In summary, Hypotheses 1a and 1b were not supported. The results did not indicate a positive relation between GCMO and  $\Delta$ AUDITFEES nor a relation between GCMO and  $\Delta$ NASFEES. Hypothesis 2 was supported for a positive relation between  $\Delta$ AUDITOR and GCMO. Hypotheses 3a and 3b were supported for a relation between  $\Delta$ AUDITOR and both  $\Delta$ AUDITFEES and  $\Delta$ NASFEES. I found support for Hypotheses 4a and 4b that there was a moderating effect on the relationship between  $\Delta$ AUDITOR and both  $\Delta$ AUDITFEES and  $\Delta$ NASFEES when the issuance of a GCMO occurred. Hypotheses 5a, 5b and 5c were not supported – additional NAS were not purchased to compensate auditors for the additional risk or to compensate for lowballing, and NAS were also not purchased in order to receive better audit opinion.

## CHAPTER 5 - CONCLUSIONS, LIMITATIONS AND CONTRIBUTIONS

### 5.1 Conclusions

Professional services in the form of audits and NAS have been provided to companies by accounting firms for many years and the pricing for these services have been controversial for many years as well (Simunic, 1980). When pricing these services, firms have attempted low-balling their fees in order to entice companies to continue with the firm or in many cases, to change to a new firm. At other times, firms have increased their fees due to potential additional risk associated with providing their services. This study examined the relation between changing auditors and the change in both audit and NAS fees and the relation between receiving a GCMO and the change in both audit and NAS fees. In addition, this study examined the moderating effect of receiving a GCMO on the relation between changing auditors and the change in both audit and NAS fees.

The results in this study indicate that a first time GCMO has an overall negative impact on the change in audit fees. This is inconsistent with a majority of the extant literature where audit fees generally increased when a GCMO was present. It appears that audit firms may now be decreasing fees in order to either retain their clients or possibly to assist the client in controlling costs due to the financial hardship of the client (as indicated by the GCMO). This difference from previous studies could also be the result of changes in the audit environment since the introduction of Sarbanes-Oxley, which require more corporate responsibility and therefore potentially decreases the risk associated with the receipt of a going concern modified opinion. Regardless of the

reason, this surprising finding warrants future research on this topic. For NAS fees, the receipt of a first time GCMO had no significant relation, which indicates that the receipt of a GCMO does not affect the purchase of NAS.

The receipt of a first time GCMO did have a positive effect on auditor dismissal, which is consistent with prior literature. Auditors are more likely to be dismissed when a company receives a first time GCMO. The findings also indicate that when an auditor is dismissed, there is a negative impact on audit and NAS fees – i.e., when a company dismisses its auditor, their audit fees tend to decline. This generally indicates that the new auditor charged less than the previous auditor charged and may be low-balling their fee to obtain the new client. When a company dismisses an auditor, the NAS fees were also lower. This could indicate that the company is purchasing fewer services from the new auditor or the auditor is low-balling their NAS fee prices as well to obtain the new client.

The crux of this study however, was the examination of the moderating effect of a first time GCMO on the change in both audit and NAS fees when an auditor is dismissed. As discussed above, when an auditor is dismissed, audit fees decline. However, a first-time GCMO had a moderating effect on this relation and in the presence of a GCMO there was no longer a decline in audit fees when an auditor was dismissed. This could indicate that the new auditor was concerned with the risk of a new unknown client and was not willing to low-ball their audit fee. Alternatively, it could indicate that the auditor has the opportunity to receive higher fees due to the company wanting to change auditors after the receipt of a GCMO. GCMO also had a moderating effect on the relation between the change in NAS fees and auditor dismissals and in the presence of a GCMO

there was no longer a decline in NAS fees when an auditor was dismissed. This could indicate that the company was purchasing more NAS to help with the issues that caused their GCMO.

In trying to ascertain reasons why companies purchase NAS, this study examined three alternatives. Did the purchase of NAS after receiving a GCMO compensate the auditor for taking on a more risky client; did the purchase of NAS allow the auditor to low-ball their audit fees; or did the purchase of NAS allow the client to “buy” a better opinion? This study did not find statistical evidence to support any of these questions – it does not appear that NAS are purchased to compensate the auditor for any of these reasons. Maybe the purchase of NAS is simply to improve the company’s performance which future research can examine.

## 5.2 Limitations

The potential limitations that need to be considered in this study are as follows. First, the time period of this study (2004 – 2014) was selected to represent the relations of the variables in question in a post-SOX era. As there are observations beginning as early as 2004 in this study, there may still be some lingering SOX effects in the sample period (SOX was substantially implemented in 2004, but there were a few provisions where the implementation date was extended into 2005).

Second, as the sample consisted of U.S. publicly traded companies available in Audit Analytics and Compustat, the results of the study may not be generalizable to the entire population of smaller public or private companies and organizations in the United States nor to companies or organizations domiciled outside the U.S.

Third, there may be other financial or non-financial incentives for changing auditors that are not being addressed in this study. Finally, the measure for NAS fees in this study relates only to those NAS fees that are paid to the auditor. It is unknown if the companies purchased similar NAS from a different firm. If there were consulting fees paid to third party providers other than the auditors, these amounts are not included in the NAS fees and therefore could result in different findings if included.

### 5.3 Contributions

This study makes many contributions to the literature. Prior literature showed audit fees increased when a GCMO was received (Desir et al, 2014; Ettredge et al, 2007; Huang et al, 2009). This study indicates this relationship has changed as audit fees are actually decreasing in the presence of just a GCMO. This could be a concern for policy makers as lower audit fees could indicate that low-balling is taking place and could result in a decline in audit quality. However, it could also be an indication that technology is improving the audit process, which in turn might reduce audit pricing. This is certainly an area for future research.

This study also answers the call for replicative studies to ensure prior research findings hold consistent across time (Carcello et al, 2011; DeFond & Zhang, 2015; Dyckman & Zeff, 2014). This study did find confirmative evidence that an auditor dismissal is more likely to occur after the issuance of a first time GCMO.

Another contribution of this study was to address some of the potential concerns regarding the purchase of NAS to compensate audit firms for taking on more risky clients, or to reduce their audit fees, or maybe even to “buy” a better audit opinion. The results in this study indicate that these three concerns may not be an issue.

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