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# Anticipation and Reaction to Going Concern Modified Audit Opinions by Sophisticated Investors

Marshall A. Geiger
*University of Richmond*, mgeiger@richmond.edu

Abdullah Kumas
*University of Richmond*, akumas@richmond.edu

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Marshall A. Geiger* and Abdullah Kumas

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* Corresponding author.
**Marshall A. Geiger** is from Robins School of Business, University of Richmond, 1 Gateway Road, Richmond, VA 23173, USA, 804-287-1923, mgeiger@richmond.edu.

**Abdullah Kumas** is from Robins School of Business, University of Richmond, 1 Gateway Road, Richmond, VA 23173, USA, 804-289-1762, akumas@richmond.edu.

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## Abstract

The purpose of this paper is to examine whether institutional investors: 1) anticipate a distressed firm's receipt of a first-time going concern modified audit opinion, and 2) react to a first-time going concern modified opinion by engaging in abnormal net selling of firm shares. Using a proprietary database of U.S. institutional investor trades, we find that institutional investors are net sellers of first-time going concern opinion firms beginning six months before the release of the report and remain net sellers through the subsequent three months. We also find that the severity of the reasons auditors modify their opinions is associated with increased trading activity, but only after the opinion is publicly available. Our results support the position that an auditor's going concern modified opinion is influential in the marketplace by documenting that institutional investors anticipate this price-relevant information and react through increased selling. The finding of increased net selling of firms with more severe reasons for report modifications provides evidence of the incremental informational value of the wording in the modified opinion.



**Keywords:** Going Concern, Auditor Opinions, Institutional Investors

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## 1. INTRODUCTION

In this study, we examine whether institutional investors, as a group of sophisticated investors, are able to anticipate bad news from the company's external auditor in the form of a first-time going concern modified audit opinion (GCMO), and whether this opinion is associated with trading after its release. External auditors obtain a vast amount of private information when conducting the audit (Kida, 1980; Beattie, Fearnley & Brandt 2000), most of which is never revealed to the public. However, in the case of a GCMO, the auditor is required to indicate their overall doubt regarding the continued viability of the company, along with the salient factors that have caused them to maintain such doubt (Carson, Ferguson & Simnett 2006; Blay & Geiger, 2013; Xu, Carson, Fargher & Jiang, 2013; AUASB, 2015; PCAOB, 2015a; Carson, Fargher & Zhang 2017). Professional standards indicate that a GCMO is not a prediction of failure. Nonetheless, it is a credible signal from the auditor regarding the financial condition of the company and the auditor's professional assessment of continued future viability that has the potential to provide price-relevant information to the market (Fleak & Wilson, 1994; Menon & Williams, 2010; Blay, Geiger & North, 2011; Renart & Barnes, 2013; Ianniello & Galloppo, 2015; Carson et al., 2017). Therefore, we examine trading around announcements of first-time GCMOs to determine whether institutional investors in the U.S. appear to anticipate this GCMO, and whether it provides additional information to these investors.

A large literature establishes the important role that the external auditor plays in the financial markets (DeFond & Zhang, 2014; Hay, Knechel, & Willekens, 2014). Prior research has found that an audit by independent external auditors increases the credibility of financial information produced and disseminated by company management (Duréndez & Gómez-

Guillamón, 2003; Wallace, 2004; Fan & Wong, 2005), which then enables companies to reduce their overall cost of capital (Minnis, 2011; Lennox & Pittman, 2011). In addition, prior research finds that specific communications from external auditors directly affect both a company's cost of capital (Ogneva, Subramanyam, & Raghunandan, 2007; Karjalainen, 2011), and their equity price (Fleak & Wilson, 1994; Blay & Geiger, 2001; Menon & Williams, 2010; Ianniello & Gallopo, 2015; Kausar, Taffler & Tan, 2017).

Standard-setters in the U.S., and internationally, have for the past several years debated, proposed and adopted regulations pertaining to reporting on a company's ability to continue as a going concern from both management's perspective and the auditor's perspective (IAASB 2015). The Financial Accounting Standards Board (FASB) in the U.S. recently adopted new reporting standards for company management to affirm their company's ability to continue as a going concern, or to disclose the significant reasons the company's going-concern status may be at risk (FASB 2014). Further, and along with recently finalizing a new overall auditor reporting standard (PCAOB 2017a), the Public Company Accounting Oversight Board (PCAOB) has held numerous meetings with their advisory boards discussing how auditors should assess and report on going concern issues of their audit clients (PCAOB 2011, 2012a, 2012b, 2012c, 2012d). These discussions have led to placing the issue of auditor reporting on going concern on the PCAOB's current project agenda (PCAOB 2017b).

Prior literature also establishes the important role that institutional investors play in the financial markets. Previous research has found that these sophisticated investors not only are able to profitably trade on publicly available information (Bushee & Goodman, 2007; Yan & Zhang, 2009; Jegadeesh & Tang, 2010), their trades also provide information to the market that influences individual firm valuation (Sias & Starks, 1997; Boehmer & Kelley, 2009; Ramalingegowda & Yu,

2012). Institutional investors often have access to private information in the form of meetings with corporate executives that are not available to other market participants (Ke & Ramalingegowda, 2005; Griffin, Shu & Topaloglu, 2012; Green, Jame, Markov & Subasi, 2014). Accordingly, prior studies (Ke & Petroni, 2004; Solomon & Soltes, 2015) observe that institutional investors are able to execute profitable trades based on their private information, and that there is a positive relationship between changes in institutional holdings and firms' future earnings and returns. Consequently, institutional investors appear to be able to anticipate future corporate events better than other market participants (Ke & Petroni, 2004; Hribar, Jenkins & Wang, 2009; Ramalingegowda, 2014).

We analyze institutional investor trading activity by using a proprietary database of U.S. institutional investor trades from *Ancerno Ltd*. We examine trading activity before and after the announcement of a first-time GCMO and focus our analysis on the net buying activity (i.e., purchases minus sales) of these institutional investors. If institutions are able to accurately anticipate the receipt of a first-time GCMO, we expect to see a pattern of net selling prior to the announcement of the first-time GCMOs. Further, our analysis employing actual daily trading activity allows us to determine, on average, how early institutional investors begin to actively trade on their expectation of a GCMO.

We find that *Ancerno* investors are abnormal net sellers beginning approximately six months prior to the announcement of the first-time GCMO and remain so through three months after release of the GCMO. Our results are generally consistent with Johnson and Lys (1990) who show that fundamental changes in a firm's operations can precede a GCM, thereby inducing knowledgeable institutional investors to sell. Our findings support Ramalingegowda (2014) who finds that institutional investors are net sellers prior to bankruptcy filing. Our results are also

consistent with those of Menon and Williams (2010) who find that institutional investor ownership percentages are significantly lower the quarter after the GCMO announcement. Further, we find that, in general, the severity of the GCMO, as indicated by multiple stated reasons for the report modification, do not significantly affect institutional investor net selling activity prior to the GCMO date, but are associated with greater net selling activity after its release. These results suggest that institutional investors are generally able to identify and reduce their holdings of subsequent first-time GCMO firms, yet the reasons for the GCMO are still value-relevant and significantly affect even sophisticated institutional investor trading.

Our study contributes to the literature in several ways. First, our study differs from prior research in that we address a more fundamental question of whether institutional investors appear to be able to anticipate forthcoming first-time GCMOs prior to their public announcement; and if so, when the institutional investors first start trading on the anticipated GCMOs. Prior studies have investigated institutional investor trading around the release of information from the company or from investment analysts, but not from the company's external auditor. We demonstrate that institutional investors appear able to accurately anticipate auditor GCMOs, even after controlling for other indicators of financial stress, and are net sellers of these companies prior to the public GCMO announcement. Second, we use actual institutional investor daily trading data. Prior research investigating investor reaction to price-relevant information has typically examined the aggregate equity market, or has relied on quarterly 13-F institutional investor holdings data to infer trading reaction of institutional investors (Menon & Williams, 2010).[1] Third, ours is one of the few studies that explore reaction to the reasons auditors indicate in the GCMO for their doubt about a firm's ability to continue as a going concern (Menon & Williams, 2010; Chen, He, Ma & Stice, 2016). We find that institutional investor trading differs with the severity of reasons for the

GCMO, but only after the GCMO is released, suggesting that the wording of the GCMO matters. Fourth, we contribute to the literature on differences in Big 4 and non-Big 4 firms as we find evidence that Big 4 audit opinions are associated with significantly greater net selling, suggesting Big 4 opinions may be viewed as more credible than non-Big 4 opinions. Lastly, we contribute to the sparse literature on institutional investor trading of distressed firms. Frino, Jones, Lepone, and Wong (2014) and Ramalingegowda (2014) examine trading on bankrupt firms in Australia and in the U.S., and Ramalingegowda (2014) notes that there are numerous studies on the trading behavior of institutional investors, yet there is little research that investigates institutional investor trading on financially distressed firms. As investor trading and auditor reporting on distressed firms is of interest to regulators, practitioners and academics (Carson et al., 2017; Kausar & Lennox, 2017), we extend the literature in this area by examining trading surrounding distressed firms that receive first-time GCMOs.

The remainder of the paper proceeds as follows. The next section provides some background, discusses the prior literature and presents our research questions. A discussion of our institutional investor trading data is presented next, followed by our research method. We then present the results of our analyses, and the final section concludes the study.

## 2. BACKGROUND AND RESEARCH QUESTIONS

### 2.1 Auditor Going Concern Opinions and Market Responses

External auditors, as third party information intermediaries, play a key role in shaping a company's information environment and enhancing the credibility of disclosed financial information (Duréndez Gómez-Guillamón, 2003; Wallace, 2004). In performing this role, external auditors obtain a tremendous amount of private company information that they use in conducting

the audit and in formulating their professional opinion regarding the company's financial statements and disclosures (Kida, 1980; Beattie et al., 2000; PCAOB, 2015a). Professional standards preclude auditors from disclosing or acting on their private information; however, auditors convey some of their private information by rendering their professional opinion on the client's financial statements in their audit report. The audit report is the final, public summation of the auditor's professional opinion regarding the client company's financial statements and disclosures. The release of this opinion from a privately informed third party may relay new or confirmatory information to the market (Blay et al., 2011), and although guided by professional standards, its form and content is controlled by the auditor.

Current going concern reporting standards in the U.S. are consistent with those of the IAASB (2015) and AUASB (2015). They require that in cases of company financial stress, if, after evaluating all the available evidence, the auditor has "substantial doubt" regarding whether the client company can continue as a going concern for the succeeding 12 months, then they are required to modify their audit report to emphasize this uncertainty (PCAOB, 2015b). The issuance of an audit opinion modified for going concern uncertainty involves evaluating a voluminous amount of audit evidence, and requires a considerable amount of professional judgment (Kida, 1980; Carson et al., 2013; Renart & Barnes, 2013).

Prior empirical and anecdotal research finds that GCMOs, and especially first-time GCMOs, are likely the outcome of an extensive amount of negotiation between company management and the auditor (Kida, 1980; Beattie et al., 2000; Bodek, Daugherty, & Radtke, 2012). During these negotiations, auditors must balance client preferences for unmodified reports against their fiduciary duty to act in the interest of financial market constituents. Prior research has supported this reporting tension on the part of external auditors by documenting that clients do not

welcome getting a GCMO opinion from their auditor, and often dismiss the audit firm if they receive what can be viewed as an unwarranted GCMO opinion (Geiger, Raghunandan, & Rama, 1998; Carcello & Neal, 2003). However, in cases of bankruptcy, auditors are able to reduce their litigation exposure if they issue a GCMO to a financially distressed client prior to bankruptcy filing (Kaplan & Williams, 2012). These findings support an audit client's preference for a standard unmodified audit report, and the potential adverse consequences for auditors issuing and not issuing a GCMO. Accordingly, auditors are very cognizant about not rendering a warranted GCMO, or rendering one without justification (Geiger, Raghunandan & Rama 1998).

Prior research also documents that an auditor's GCMO opinion is perceived by the market as a credible signal of the company's business risk (Dopuch, Holthausen, & Leftwich, 1986; Kennedy & Shaw, 1991). In general, companies that are recipients of unexpected first-time GCMO reports experience a statistically and economically significant negative stock price reaction (Fleak & Wilson, 1994; Blay & Geiger, 2001) that causes a shift in firm valuation from the income statement to the balance sheet (Blay et al., 2011). In sum, prior research supports the position that the GCMO opinion provides incremental information to the market from the auditor that is generally interpreted as a signal of potential business failure (Hopwood, McKeown, & Mutchler, 1994; Carson et al., 2013; Ianniello & Gallopo, 2015).

Menon and Williams (2010), using institutional holdings data from quarterly 13F filings, show that institutional ownership declines after the issuance of first-time GCMOs and that market reaction to the GCMO announcement is negatively related to level of institutional ownership. They conclude that institutional investors facilitate the market's ability to evaluate the negative information provided by the auditor's GCMO, and that institutional investors are the primary drivers of the negative stock price reaction to a GCMO.

## 22. Institutional Investors as Sophisticated Market Participants

Institutional investors own more than 60 percent of all publicly traded stocks in the US, and account for an even greater proportion of trading volume, making them one of the most important participants in the equity market.[2] Institutional investors are endowed with resources that can be used to obtain or generate superior information through either their own research or their connections with analysts, investment bankers, corporate executives, and board members. Institutional investors also have the ability to hire professional fund managers and analysts to perform extensive data collection and analysis of publicly available company information, which also enables them to outperform the general public (Sias & Starks, 1997; Boehmer & Kelley, 2009).[3]

In addition, large institutional investors are often able to access material information through different channels, while small investors must generally rely solely on publicly available information (Jegadeesh & Tang, 2010; Bushee, Jung, & Miller, 2011; Griffin et al., 2012; Green et al., 2014). For example, a 2015 Wall Street Journal article reports that institutional investors get special access to companies and are not only given company facts, they are afforded the opportunity to read executives' body language and voice tone for subtle, unspoken clues during restricted meetings with top management.[4] In sum, the above arguments suggest institutional investors, in general, possess an informational advantage over other investors.

## *3.* RESEARCH QUESTIONS

Based on the preceding discussion, and the negative share price impact of a first-time GCMO, if institutional investors are able to anticipate these events for a company held in their investment portfolio, we expect them to be net sellers of those company shares prior to the public announcement of a first-time GCMO. Therefore, we expect institutional investors to start actively

selling their stocks in firms receiving a first-time GCMO before the public announcement. Accordingly, our first research question is:

> ***RQ1***: Are institutional investors net sellers prior to public announcements of a first-time going-concern modified audit report?

Our study differs from prior studies on institutional investor holdings in that we address a more fundamental question of whether institutional investors appear to be able to anticipate forthcoming first-time GCMARs prior to their public announcement; and if so, when the institutional investors first start trading on the anticipated GCMARs

### 3.1 Institutional Investor Trading and the Severity of the GCMO

GCMOs are not identical because professional auditing standards require that if the auditor determines that there is substantial doubt about the firm's ability to continue as a going concern, that the auditor must mention the pertinent conditions and events giving rise to such doubt in their audit report (PCAOB, 2015a). However, only a few studies have examined the reasons for the auditor rendering a GCMO and the varying influence on report users. In one of the first studies, Menon and Williams (2010) find that GCMOs indicating the company is having difficulty obtaining financing, which they classify as a *severe* reason for a GCMO, experience greater negative stock price reaction than GCMOs for other reasons. Chen et al. (2016) provide evidence that different reasons for the GCMO (for example financing difficulties, operating difficulties, other) lead to different loan contract conditions (for example interest rate, maturity, number and type of loan covenants). These studies highlight the informative value of the different GCMO reasons, and provide empirical support that what auditors communicate in the GCMO is not a simple binary decision to modify or not modify their report.

If institutional investors are better able to anticipate the receipt of a first-time GCMO than other market participants, then it follows that they may also be able to more accurately identify the

reasons for the GCMO, and the severity of those reasons. Accordingly, we examine whether the severity of the reason for the GCMO is associated with institutional investor trading behavior. Thus, our second research question:

> ***RQ2***: Is institutional investor net selling greater for more severe reasons for a first-time going-concern modified audit report than less severe reasons?

## 4. DATA AND SAMPLE

Following prior research (Blay & Geiger, 2001; Menon & Williams, 2010), we classify a firm as receiving first-time GCMO if it receives a GCMO in the current year, but did not get a GCMO in the previous year. We combine Compustat and Audit Analytics databases with the institutional investors' detailed trading data provided by *Ancerno Ltd.* to investigate the institutional investors trading behaviors around the release date of the GCMOs. Puckett and Yan (2011) conclude that the institutional investors in the *Ancerno Ltd.* dataset account for around 10 percent of institutional trading activity.[5] The sample for this study consists of firms receiving a GCMO from the period 2002 to 2010. [6]

To examine trading activity, we use the daily trade data and form monthly institutional investors' trading metrics (i.e., net buying). The database does not provide the name of the institutional investors, however, each institution has a unique investor code and *Ancerno* reports traded firm identifiers (CUSIP and TICKER symbol), trade date, execution volume, execution price, and whether the trade is a buy or sell (see Cready et al, 2014). We only include firms with trading data from *Ancerno* that also have stock price, earnings before extraordinary items, market value of equity, book value of equity and total assets data in Compustat. We drop small firms (firms with less than $10 million in market value of equity). We also exclude 26 firms whose GCMO filing dates from Audit Analytics precede the fourth quarter earnings announcement date from Compustat. After merging Audit Analytics, Compustat, and *Ancerno* databases our sample

consists of 420 firms receiving first-time GCMOs. We use the reasons for report modification in Audit Analytics to identify companies with severe GCMOs.

## 5. RESEARCH DESIGN

The metric representing institutional investor trading activity is constructed in two steps. First, we compute the daily net buying activities of the investors for each GCMO firm on each day. In particular, the institutional investors' net buying metric for firm *i* on day *t* (*NET_BUY*$_{it}$) is constructed as:

$$NET\_BUY_{it} = \frac{BUY_{it} - SELL_{it}}{BUY_{it} + SELL_{it}} \quad (1)$$

where *BUY*$_{it}$ *(SELL*$_{it}$*)* represents total number of shares outstanding purchased (sold) by the *Ancerno* investors in firm *i* on day *t*. Therefore, *NET_BUY*$_{it}$ expresses the difference between percent buying activity and percent selling activity in firm *i* on day *t*. Second, after computing the daily percentage net buying activities we form monthly averages of the daily net buying activities during the months surrounding the GCMO filing date. Thus, *NET_BUY*$_{i,m}$ represents institutional investors' average percentage net buying activity of firm *i* in month *m*. The monthly net buying metric is constructed as:

$$NET\_BUY_{i,m} = \sum_{t=1}^{T} NET\_BUY_{it}/\mathrm{T} \quad (2)$$

where *T* represents the number of trading days in month *m*. For example, *NET_BUY*$_{i,-2}$ *(NET_BUY*$_{i,+2}$*)* is the average percentage net buying activity of *Ancerno* investors in firm *i* during the 2$^{nd}$ month prior to (after) the GCMO filing date. We examine monthly net buying activities of the investors for a window of 15 months; nine months before to six months after around the GCMO filing date (i.e., from *month-9* through *month+6*). The use of a 15-month window also ensures that

the investigation period of a first-time GCMO does not coincide with the investigation period of another first-time GCMO issued to the same company.[7]

As discussed further in a subsequent section of the paper, we first conduct a univariate analysis for the months surrounding the GCMO filing date (i.e., from *month-9* through *month+6*). Sample demographic statistics for the first-time GCMO firms are presented in Table 1. As is observed in Panel A of Table 1, the sophisticated investors are, on average, net sellers in the GCMO firms during the 15-month period with a mean *NET_BUY* of -0.063. Additionally, Panel A of Table 2 presents the monthly net buying activities during the months surrounding the GCMO. We observe that the institutions are neither significant net sellers nor net buyers for the first-time GCMO firms from *month-9* to *month-7,* inclusive. In other words, the *Ancerno* investors do not significantly prefer buying or selling during these three months, which provides us a unique research design opportunity in which this "silent" trading period can be employed as a benchmark period in our examination of trading behavior. In essence, this "silent" trading period allows the GCMO firms to provide their own control for comparing future trading activity.[8]

Insert Tables 1 and 2 here

We then use OLS regressions to answer our research questions related to the trading activities of institutional investors around first-time GCMOs. In our regression model we provide additional control for several factors that potentially explain investor trading reaction to GCMOs and estimate the following model:

$$NET\_BUY_{i,m}=\alpha_0+\sum_{m=1}^{6}\mathrm{T}_m * PRE_{i,m}+\sum_{m=1}^{6}\phi_m * POST_{i,m}+\alpha_1 SIZE_i+\alpha_2 BTM_i+\alpha_3 EARNINGS_i+$$
$$\alpha_4 BIG4_i+\alpha_5 ZSCORE_i+\varepsilon \quad (3)$$

where:

$PRE_{i,m}$ is a dummy variable equal to one if the designated trading month represents the m[th] month prior to the GCMO filing date; 0 otherwise,

$POST_{i,m}$ is a dummy variable equal to one if the designated trading month represents the m[th] month after the GCMO filing date; 0 otherwise,

*SIZE*$_i$ is the market value of equity of firm *i* at the end of the fiscal year of the GCMO,

*BTM*$_i$ is the book-to-market measured as book value of equity scaled by the market value of equity of firm *i* at the end of the fiscal year of the GCMO,

*EARNINGS*$_i$ is the annual earnings surprise measured as annual earnings before extraordinary items from the fiscal year of the GCMO minus last year's annual earnings before extraordinary items scaled by the market value of equity from last year,

*BIG4*$_i$ is a dummy variable equal to one if the firm was audited by a Big 4 audit firm; 0 otherwise, and

*ZSCORE*$_i$ is an overall measure of firm distress presented in Zmijewski (1984) calculated using the most recent fiscal year prior to our investigation window, and where higher scores indicate higher levels of financial stress.

Following prior research, we include controls for firm size (*SIZE*$_i$) and the market's perceived growth opportunities for the firm (*BTM*$_i$). We expect *SIZE* to be positively associated and *BTM* to be negatively associated with trading activity (Ramalingegowda 2014). We also include control for earnings surprises (*EARNINGS*$_i$) to address concerns raised by Myers, Shipman, Swanquist, and Whited (2017) regarding the market's reaction to the earnings surprise and not the GCMO. We expect to observe a positive association between the surprise and the net

buying activity by institutions. We control for audit reporting quality and information source credibility by including a Big 4 indicator variable (*BIG4*$_i$), and expect it to be negatively associated with net selling activity. Finally, we also control for the overall level of financial stress (*ZSCORE*) to help insure that investors are trading in relation to the GCMO and not the firm's overall financial condition. We expect that higher levels of financial stress lead to greater net selling.

In addition, notice that the data employed in estimating model (3) also include observations from the monthly net buying activities (*NET_BUY*$_{i,m}$) from *month-9* to *month-7*, the benchmark period. Therefore, regression coefficients on the dummy variables ($PRE_{i,m}$ or $POST_{i,m}$) represent the *relative magnitude* of the net buying activity by the *Ancerno* investors during the $m^{th}$ month *compared to the benchmark period*. A significantly negative coefficient on the monthly indicator variables suggests that institutions' net selling activity in the $m^{th}$ month prior to (or after) the filing date is significantly greater than in the *month-9* to *month-7* benchmark period.

We investigate whether institutional investor net selling activity is greater for more severe reasons for a first-time GCMO, ***RQ2***, by employing the following model:

$$NET\_BUY_{i,m} = \alpha_0 + \sum_{m=1}^{6} \mathrm{T}_m * PRE_{i,m} + \sum_{m=1}^{6} \beta_m * PRE_{i,m}\, xSEVERE_i + \sum_{m=1}^{6} \phi_m * POST_{i,m}$$

$$+ \sum_{m=1}^{6} \theta_m * POST_{i,m} xSEVERE_i + \alpha_1 SIZE_i + \alpha_2 BTM_i + \alpha_3 EARNINGS_i + \alpha_4 ZSCORE_i +$$

$$\alpha_5 BIG4_i + \varepsilon \qquad (4)$$

where *SEVERE*$_i$ is a dummy variable equal to one if firm *i* receives a first-time severe GCMO; 0 otherwise. We first follow Menon and Williams (2010) and classify the reasons stated in the GCMO as either: 1) financing problems, 2) poor financial performance, 3) operating problems, and 4) other issues. We then adopt a stricter definition of severe than Menon and Williams (2010) who used only the presence of financing problems to signal severe GCMOs, and identify a first-

time GCMO as severe if the opinion mentions *both* a financing problem *and* a financial performance difficulty (for example recurring losses, or retained earnings deficit). Using this definition, we identify 154 of the 420 first-time GCMOs as severe. We expect a significantly negative coefficient on the interaction term $PRE_{i,m}xSEVERE_i$ $(POST_{i,m}xSEVERE_i)$ which indicate that institutions' net selling activity in the $m^{th}$ month prior to (after) the filing date is higher for the firms receiving a severe first-time GCMO than those receiving an other than severe GCMO.

## 6. RESULTS

As reported in Panel A of Table 1, our sample of 420 first-time GCMO firms have mean assets of $1,088 million and mean market value of equity (*SIZE*) of $137 million over the years 2002-2010. Again, the institutional investors in our study are, on average, net sellers of these GCMO firms over the 15 months surrounding the GCMO announcement as reflected in the mean *NET_BUY* of -0.063. In other words, the percent selling activity exceeds the percent buying activity by 6.3percent for the period (*p-value*<0.01). The GCMO firms also report mean book-to-market ratios (*BTM*) of -0.845, mean share prices of $3.145 and earnings surprises (*EARNINGS*) of -0.049. All mean values in Panel A are significantly different than zero at *p-value*<.01, except the average *BTM* is not significantly different from zero (*p-value*=0.29).

### 6.1 Univariate Tests

Table 2 reports the mean values for *NET_BUY* monthly trading activity of our sample of institutional investors holding portfolios containing firms that receive a first-time GCMO. As reported in Panel A of Table 2, the institutional investors appear to anticipate the first-time GCMO and are net sellers fully six months prior to the announcement of a first-time GCMO. Beginning at *month-6* and continuing through *month+3*, we find that *NET_BUY* is negative and significant

(*p-values* range from 0.001 to 0.020), consistent with institutional investors anticipating the first-time GCMO and executing additional net selling of equity positions in these firms well before a GCMO announcement to the market. These results are consistent with prior research that has found institutional investors are able to transact on their anticipation of firm-specific price-relevant information prior to other market participants (Ke & Ramalingegowda, 2005; Green et al., 2014; Solomon & Soltes, 2015).

To address **RQ2** regarding institutional investor net selling behavior for severe GCMOs, Panel B of Table 2 presents the monthly *NET_BUY* mean values for the 154 severe GCMO firms. The severe GCMO net trading results are very similar to the full sample results, except for a non-significant trading activity at *month-5* for the severe firms. In addition, compared to the full sample, the trading activity in each of the months between *month-6* and *month+3*, except for *month-5*, for the severe firms are all considerably larger, indicating greater net selling of the severe firms compared to all firms by the *Ancerno* investors. Accordingly, we find some univariate evidence that, in general, institutional investors trade differently for more severe first-time GCMOs than non-severe first-time GCMOs.

### 6.2 Multivariate Tests

To examine **RQ1,** we follow prior research and control for other factors associated with firm stress and trading activity and estimate the coefficients in equation (3). The results of estimating equation (3) for the full sample of first-time GCMO recipients are presented in Table 3. After controlling for measures of firm distress and other trade related factors, the coefficient estimates in column 3 present a very similar pattern as reported in Table 2. With the exception of

the coefficient on *month-5* (*PRE5)*, the coefficient estimates for the six months prior to and three months subsequent to the release of the first-time GCMO are negative and significant at a *p-value*<.10 or better. In addition, we find that institutional investors become net buyers in *month+5* after the public announcement of the GCMO.[9] Thus, after controlling for other firm distress and trade related factors, we continue to find strong evidence that institutional investors are net sellers of first-time GCMO firms beginning six months prior to the GCMO.

Insert Table 3 Here

We find that our control variables are in the expected directions and are generally significant (*p-values*<.10) in Table 3. It is also interesting to note that the coefficient on *BIG4* is negative and significant (*p-value*<.001), indicating that institutional investors are greater net sellers of first-time GCMO firms if those firms are audited by a Big 4 audit firm. This finding suggests that institutional investors may perceive the GCMO from a Big 4 firm as more credible than that of a non-Big 4 firm and consequently increase their net selling accordingly.[10]

We examine **RQ2** with respect to differential trading around severe GCMOs by estimating equation (4) that includes monthly indicator variables and the indicator variable for severe GCMOs (*SEVERE*) that is interacted with our monthly indicator variables. Our interaction terms capture the incremental trading activity on the severe first-time GCMO firms compared to the non-severe first-time GCMO firms. We report our results of estimating equation (4) in Table 4.

Insert Table 4 Here

For brevity, we report the coefficients from equation (4) for the interaction terms and the control variables. As reported in Table 4, after controlling for other trade related factors, we do not find the same pattern for *incremental* institutional trades associated with more severe GCMOs

compared to non-severe GCMOs. In fact, while most of the coefficients on our *PRE*SEVERE* (*POST*SEVERE*) interaction terms are negative, indicating greater net selling of the severe GCMO firms compared to the non-severe firms, they are only significant *after* the release of the GCMO in *month+1* and *month+2*. These results suggest that institutional investors trade firms receiving a severe GCMO fairly similar to non-severe first-time GCMO firms in the periods prior to the audit report and in the period after *month+2*. However, in the period immediately following the audit report release, we find significant incremental net selling activity for the severe GCMO firms compared to the non-severe GCMO firms. These findings provide evidence that the auditor's stated reasons for the GCMO have information value to these investors. The institutional investors in our study increased their net selling activity for severe GCMO firms, but only *after* the release of the GCMO mentioning the severe reasons. This post-GCMO trading pattern is particularly salient in light of the non-significant trading differences in the immediate pre-release period. Thus, our results suggest an informational value for the auditor's reasons for the GCMO that are beyond just the report modification itself.

Insert Table 4 Here

### 6.3 Additional and Robustness Tests

#### *Use of a Control Sample*

As with all research on firms receiving GCMOs, identifying proper counter factual observations (i.e., companies that "should have" received a GCMO but did not) for comparison is difficult, if not impossible (Myers et al., 2017). Nonetheless, to provide an external comparison for assessing trading of our first-time GCMO firms (as opposed to using trading in *month-9* to *month-7* as the benchmark), we identify a control sample of financially distressed firms that did

not receive any GCMO during our entire 2002-2010 sample period. Following prior research (Blay & Geiger, 2013), firms were considered financially distressed only if they reported both negative income and negative cash flows in the same fiscal year. Using this definition of financial distress, we are able to identify 438 firm-year observations on which the *Ancerno* investors engage in trading. Descriptive statistics for these distressed non-GCMO firms are provided in Panel B of Table 1, and suggest that they are very similar to the GCMO firms. To include these distressed non-GCMO firms and address our research questions, we re-estimate models (3) and (4) by incorporating the control sample. Specifically, we re-address ***RQ1*** by using the following model:[11]

$$NET\_BUY_{i,m}=\alpha_0+\sum_{m=1}^{6}\mathrm{T}_m * PRE_{i,m}+\sum_{m=1}^{6}\beta_m * PRE_{i,m}\,xFGC_i+\sum_{m=1}^{6}\phi_m * POST_{i,m}+$$

$$\sum_{m=1}^{6}\theta_m * POST_{i,m}xFGC_i+\alpha_1 SIZE_i+\alpha_2 BTM_i+\alpha_3 EARNINGS_i+\alpha_4 ZSCORE_i+\alpha_5 BIG4_i+\varepsilon \quad (5)$$

where $FGC_i$ is a dummy variable equal to one if firm *i* received a first-time GCMO; 0 if it belongs to the control sample of distressed non-GCMO firms. A significantly negative coefficient on the interaction term $PRE_{i,m}xFGC_i$ ($POST_{i,m}xFGC_i$) suggests that institutions' net selling activity in the $m^{th}$ month prior to (after) the filing date is higher for the firms receiving a first-time GCMO than the distressed control sample firms. Similarly, we reinvestigate ***RQ2*** by employing the following model:

$$NET\_BUY_{i,m}=\alpha_0+\sum_{m=1}^{6}\mathrm{T}_m * PRE_{i,m}+\sum_{m=1}^{6}\beta_m * PRE_{i,m}\,xSEVERE_i+\sum_{m=1}^{6}\phi_m * POST_{i,m}+$$

$$\sum_{m=1}^{6}\theta_m * POST_{i,m}\,xSEVERE_i+\alpha_1 SIZE_i+\alpha_2 BTM_i+\alpha_3 EARNINGS_i+\alpha_4 ZSCORE_i+\alpha_5 BIG4_i$$

$$+\varepsilon \quad (6)$$

When estimating equation (6) we only include the severe first-time GCMO firms and our control group of distressed non-GCMO firms. Therefore, a significant negative coefficient on the

interaction term $PRE_{i,m}xSEVERE_i$ $(POST_{i,m}xSEVERE_i)$ suggests that institutions' net selling activity in the $m^{th}$ month prior to (after) the GCMO filing date is higher for the firms receiving a first-time severe GCMO than the control sample firms.[12] Results of estimating models (5) and (6) on our combined samples of distressed non-GCMO firms and all first-time GCMOs and severe first-time GCMOs, respectively, are presented in Panels A and B of Table 5.

Insert Table 5 Here

Results of estimating equation (5) are presented in Panel A of Table 5 and indicate that, compared to the distressed non-GCMO firms, the institutional investors are greater net sellers of the first-time GCMO firms beginning with *month-2* and continuing through *month+3*. These results suggest that, after controlling for financial distress and trade related factors, the institutional investors are still significantly greater net sellers of the first-time GCMO firms compared to distressed non-GCMO firms beginning two months prior to the GCMO announcement and lasting through three months after the announcement. The results in Panel B for estimating equation (6) for the severe GCMOs are similar, and, as expected somewhat stronger, compared to the full sample of GCMO firms. Compared to the distressed non-GCMO firms, we find significantly greater net selling of the severe GCMOs beginning in *month-4* and continuing through *month+3*. These combined control-sample results lend support that our trading results are not solely attributable to institutional investor trading on distressed firms, in that net selling is significantly greater for firms receiving a first-time GCMO from their auditor than that for distressed non-GCMO firms.

***Continuing GCMOs***

To determine that our trading results are in anticipation of a first-time GCMO and not any GCMO, we identify 228 firm-years, with all necessary data, where the auditor renders a GCMO in the current year, after also rendering one in the prior year (i.e., a "continuing" GCMO). When we compare trading during *month-9* thru *month+6* for the first-time GCMO firms to the continuing GCMO firms, untabulated, we find significant differences in the patterns and levels of net selling. Specifically, compared to the continuing GCMO firms, net selling on first-time GCMO firms begins significantly earlier (*month-6* compared to *month-1* for the continuing GCMO firms), and the magnitude of the net selling behavior is typically at least two to three times greater for the first-time GCMO firms. We further analyze differences between these two groups by adding a first-time GCMO (*FGC*) indicator variable to model (3) that is interacted with each of the monthly indicator variables. We then re-estimate the expanded model using the combined sample of first-time and continuing GCMO firms. Results of this regression, untabulated, indicate that the first-time GCMO firms have significantly greater net selling (i.e., negative coefficients on the *Month*FGC* interaction terms) in each month beginning with *month-6* and continuing through *month+3* (*p*-values at <.10 or less). These results provide evidence that our results appear driven by the anticipation of and reaction to a first-time GCMO and not a continuing GCMO.

***Time Period Influences***

Prior research has indicated that auditor GCMO decisions may be different across our examination period, which could then influence the way institutional investors anticipate and trade surrounding a first-time GCMO. Specifically, prior research finds that GCMOs are less frequent beginning on or after 2006, compared to the earlier immediate post-Sarbanes-Oxley (SOX) period (Fargher & Jiang, 2008; Feldmann & Read, 2010; Kaplan & Williams, 2012; Read & Yezegel, 2016). Accordingly, we divide our sample GCMO firms into two periods, 2002 to 2006 and 2007

to 2010, and re-estimate equation (3) separately for each period. The results of the separate regressions are presented in Table 6 and clearly indicate that the 2002-2006 period is associated with significantly greater institutional investor net selling activity before and after the first-time GCMO announcement compared with that of the 2007-2010 period. Specifically, in the 2002-2006 period we find significant net selling in *month-6* and then from *month-2* through *month+3*, and then we find the institutional investors are net buyers in *month+4* and *month+5*. In contrast, in the 2007-2010 period we find increased net selling only in *month-4* and *month-1*, substantially less than the earlier period. Our results are generally consistent with the findings of earlier GCMO research, and indicate that institutional investor trading was stronger and more concentrated around first-time GCMOs in the 2002-2006 period than in the more recent period. These findings suggest that institutional investors were also more cognizant of auditor GCMO decisions, and the trading implications of those decisions, in the period right after SOX compared to subsequent periods.

## 7. SUMMARY AND CONCLUSIONS

In this study, we examine trading activity to determine whether institutional investors appear able to anticipate a GCMO prior to its public announcement, and to assess their trading reaction to the GCMO once it is announced. We expect and find that institutional investors are able to anticipate first-time GCMOs more accurately than other market participants in that they are abnormal net sellers of first-time GCMO recipient firms up to six months prior to the release of the audit report. While we find no strong evidence that the severity of the reasons mentioned in the auditor's report is associated with differential pre-report trading activity, we find evidence that institutional investors increase their net selling after a firm receives a severe first-time GCMO. Our results support the position that an auditor's GCMO is influential in the marketplace by documenting that institutional investors anticipate this price-relevant information, even beyond

indicators of financial stress, and react through increased selling in the pre-announcement period. The finding of increased net selling of firms with more severe reasons for report modifications upon its release provides evidence of the incremental informational value of the wording in the modified GCMO.

A limitation of our study is that we examine trades of *Ancerno* investors that represent only a subset of the population of institutional investors. Accordingly, our findings may not generalize to the population of institutional investors, or to investor types other than institutional investors. In addition, our *Ancerno* trading data only goes through 2010, limiting how contemporary our analyses can be. Yet, there have not been any significant structural market changes that lead us to believe that the relationships found in our data have changed substantially in more recent years. However, any newly adopted auditor report changes with respect to going concern need to be examined empirically in the future.

Our study contributes to the literature examining reaction to the auditors going concern report modification and to the limited work on institutional investor trading of distressed firms. Using a proprietary database of actual trading data, our results are consistent with the argument that institutional investors are better informed than other market participants and are able to use that information to execute trades prior to the public release of price-relevant information about the firm from their external auditor. In addition, we present evidence that the wording of the report modification also provides information to these sophisticated investors. The results of our study should be of interest to researchers, investors and regulators concerned with auditor reporting and with institutional investor trading.

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Table 1
Descriptive Statistics
Panel A: First-time GCMO Firms

| *Variable* | *Mean* | *Std Dev* | *P25* | *P75* | *Min* | *Max* | *N* |
|---|---|---|---|---|---|---|---|
| *NET_BUY (15 observations for each firm)* | -0.063 | 0.657 | -1.000 | -0.685 | 0.309 | 1.000 | 6300 |
| *Assets ($Millions)* | 1088 | 3142 | 1.000 | 29.000 | 653 | 30267 | 420 |
| *Price* | 3.145 | 5.309 | 0.0818 | 0.695 | 3.445 | 72.960 | 420 |
| *SIZE ($Millions)* | 137 | 397 | 10 | 27 | 118 | 6399 | 420 |
| *EARNINGS* | -0.049 | 0.299 | -0.506 | -0.176 | 0.033 | 1.411 | 420 |
| *BTM* | -0.845 | 16.179 | -0.052 | 1.124 | -311.896 | 17.810 | 410 |
| *BIG4* | 0.764 | 0.425 | 0.000 | 1.000 | 1.000 | 1.000 | 420 |
| *ZSCORE* | -1.526 | 1.941 | -2.899 | 0.170 | -5.287 | 1.765 | 420 |

Panel A of Table 1 reports summary statistics relating to our sample of 420 firms receiving first-time going concern modified audit opinions between January 1, 2002 and December 31, 2010. *NET_BUY* is the monthly net buying activity by the ANCERNO investors and measured as total dollar value of the shares purchased minus total dollar value of shares sold scaled by total dollar value of the shares purchased plus total dollar value of shares sold in a given month, *Assets* are the total assets of the firm at the end of the fiscal year associated with the audit report, *SIZE* is market value of the firm at the end of the fiscal year associated with the audit report, *PRICE* is the stock price at the fiscal year associated with the audit report, *BTM* is the book-to-market and measured as book value of equity scaled by the market value of equity at the fiscal year associated with the audit report, *Earnings* is annual earnings surprise measured as the difference between current year annual earnings before extraordinary items and last year annual earnings before extraordinary items scaled by the market value of equity from last year, *BIG4* is a dummy variable equal to one if the external auditor is a top four auditor (EY, PWC, Deloitte and KPMG), 0 otherwise, and ZSCORE is a measure of financial distress computed using the Zmijewski (1984) distress score metric which includes three components: return on assets, debt to assets, and the current ratio. Variable definitions are in Appendix 1.

| *Panel B: Control Sample* | *Mean* | *Std Dev* | *P25* | *P75* | *Min* | *Max* | *N* |
|---|---|---|---|---|---|---|---|
| *NET_BUY (12 observations for each firm)* | -0.031 | 0.679 | -0.653 | 0.547 | -1.000 | 1.000 | 5256 |
| *Assets ($Millions)* | 1802 | 11883 | 86 | 778 | 3 | 218328 | 438 |
| *Price* | 5.207 | 5.788 | 1.890 | 6.391 | 0.083 | 59.372 | 438 |
| *SIZE ($Millions)* | 273 | 654 | 38 | 219 | 10 | 6137 | 438 |
| *EARNINGS* | -0.156 | 0.134 | -0.220 | -0.051 | -0.506 | -0.001 | 438 |
| *BTM* | 1.188 | 2.579 | 1.021 | 1.811 | -38.780 | 7.954 | 438 |
| *BIG4* | 0.717 | 0.451 | 0.000 | 1.000 | 0.000 | 1.000 | 438 |
| *ZSCORE* | -2.319 | 2.382 | -4.888 | -0.240 | -5.158 | 2.559 | 438 |

Panel B of Table 1 reports summary statistics relating to our sample of 438 financially distressed non-GCMO control firms between January 1, 2002 and December 31, 2010.

Table 2
Net Buying Activity Around First-Time GCMOs

| | *NET_BUY* | | | |
|---|---|---|---|---|
| | *Panel A* | | *Panel B* | |
| | *First-time GCMO firms (N=420)* | | *Severe First-time GCMO firms (N=154)* | |
| Months | *Mean* | *p-value* | *Mean* | *p-value* |
| -9 | -0.037 | 0.238 | -0.047 | 0.360 |
| -8 | -0.011 | 0.737 | -0.044 | 0.400 |
| -7 | -0.008 | 0.806 | -0.054 | 0.292 |
| -6 | **-0.097** | **0.003** | **-0.114** | **0.033** |
| -5 | **-0.076** | **0.020** | -0.051 | 0.361 |
| -4 | **-0.090** | **0.006** | **-0.146** | **0.009** |
| -3 | **-0.081** | **0.019** | **-0.121** | **0.037** |
| -2 | **-0.110** | **0.002** | **-0.120** | **0.041** |
| -1 | **-0.143** | **<.0001** | **-0.192** | **0.000** |
| 1 | **-0.113** | **0.001** | **-0.192** | **0.001** |
| 2 | **-0.121** | **0.000** | **-0.205** | **0.000** |
| 3 | **-0.100** | **0.002** | **-0.162** | **0.002** |
| 4 | -0.041 | 0.163 | -0.066 | 0.175 |
| 5 | **0.056** | **0.052** | 0.049 | 0.292 |
| 6 | 0.024 | 0.355 | 0.036 | 0.405 |

Table 2 presents mean net buying activities of ANCERNO investors for our sample of 420 (154) firms receiving a first-time going concern modified audit opinion (GCMO) (severe first-time GCMO), where *NET_BUY* is average percent net buying activity in firm i in month m and is measured as total shares purchased minus total shares sold scaled by total shares purchased plus total shares sold in a given month. Severe GCMOs are those that indicate more than two issues related to either manufacturing or operating performance issues, or difficulties obtaining financing. Means in bold significantly differ from 0 at the 0.10 level or better based on a two-tailed conventional t-test.

Table 3

Monthly OLS Regressions on the Institutional Investor Reaction to First-Time GCMOs

| | *Dependent Variable: NET_BUY* | | |
|---|---|---|---|
| | *Column 1* | *Column 2* | *Column 3* |
| *PRE6* | -0.078** | -0.078** | -0.078** |
| | (-2.12) | (-2.10) | (-2.11) |
| *PRE5* | -0.057 | -0.057 | -0.057 |
| | (-1.53) | (-1.49) | (-1.49) |
| *PRE4* | -0.072* | -0.077** | -0.077** |
| | (-1.90) | (-2.03) | (-2.02) |
| *PRE3* | -0.063 | -0.072* | -0.072* |
| | (-1.62) | (-1.84) | (-1.84) |
| *PRE2* | -0.092** | -0.082** | -0.082** |
| | (-2.35) | (-2.10) | (-2.10) |
| *PRE1* | -0.124*** | -0.118*** | -0.118*** |
| | (-3.32) | (-3.14) | (-3.14) |
| *POST1* | -0.095** | -0.091** | -0.091** |
| | (-2.54) | (-2.44) | (-2.44) |
| *POST2* | -0.103*** | -0.104*** | -0.104*** |
| | (-2.73) | (-2.73) | (-2.73) |
| *POST3* | -0.081** | -0.077** | -0.077** |
| | (-2.21) | (-2.08) | (-2.08) |
| *POST4* | -0.023 | -0.020 | -0.0120 |
| | (-0.65) | (-0.56) | (-0.56) |
| *POST5* | 0.075** | 0.081** | 0.081** |
| | (2.20) | (2.36) | (2.36) |
| *POST6* | 0.043 | 0.045 | 0.045 |
| | (1.34) | (1.38) | (1.38) |
| *SIZE* | | 0.022*** | 0.024*** |
| | | (6.00) | (6.24) |
| *BTM* | | -0.010*** | -0.009*** |
| | | (-3.58) | (-2.91) |
| *EARNINGS* | | 0.014*** | 0.013*** |
| | | (3.87) | (3.54) |
| *BIG4* | | | -0.042** |
| | | | (-2.05) |
| *ZSCORE* | | | 0.004 |
| | | | (0.86) |
| *Constant* | 0.004 | -0.154* | -0.116 |
| | (0.05) | (-1.67) | (-1.23) |
| *No. of Observations* | 6300 | 6150 | 6150 |
| *Adj-$R^2$* | 0.020 | 0.031 | 0.031 |

Table 3 presents coefficient estimates from model (3) for all first-time GCMO firms where *NET_BUY* is average percent net buying activity in firm i in month m and is measured as total shares purchased minus total shares sold scaled by total shares purchased plus total shares sold in month m. *PREi,m (POSTi,m)* is a dummy variable equal to one if trading month represents the mth month prior to (after) the GCMO filing date; 0 otherwise. Numbers in parentheses are t-statistics calculated using standard errors per White (1980). ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively. Variable definitions are in Appendix 1.

Table 4
Monthly OLS Regressions on the Institutional Investor Reaction to "Severe" First-Time GCMOs

| *Dependent Variable: NET_BUY* | | | |
|---|---|---|---|
| | *Column 1* | *Column 2* | *Column 3* |
| *PRE6xSEVERE* | -0.039 | -0.024 | -0.023 |
| | (-0.59) | (-0.37) | (-0.35) |
| *PRE5xSEVERE* | 0.028 | 0.042 | 0.043 |
| | (0.40) | (0.60) | (0.62) |
| *PRE4xSEVERE* | -0.100 | -0.104 | -0.103 |
| | (-1.44) | (-1.51) | (-1.49) |
| *PRE3xSEVERE* | -0.075 | -0.050 | -0.049 |
| | (-1.06) | (-0.70) | (-0.69) |
| *PRE2xSEVERE* | -0.028 | -0.013 | -0.012 |
| | (-0.39) | (-0.18) | (-0.16) |
| *PRE1xSEVERE* | -0.091 | -0.089 | -0.088 |
| | (-1.37) | (-1.33) | (-1.31) |
| *POST1xSEVERE* | -0.136** | -0.132* | -0.131* |
| | (-2.01) | (-1.95) | (-1.94) |
| *POST2xSEVERE* | -0.144** | -0.149** | -0.148** |
| | (-2.15) | (-2.21) | (-2.19) |
| *POST3xSEVERE* | -0.111* | -0.102 | -0.101 |
| | (-1.72) | (-1.55) | (-1.53) |
| *POST4xSEVERE* | -0.051 | -0.037 | -0.036 |
| | (-0.83) | (-0.60) | (-0.59) |
| *POST5xSEVERE* | -0.023 | -0.030 | -0.029 |
| | (-0.38) | (-0.50) | (-0.48) |
| *POST6xSEVERE* | 0.005 | 0.013 | 0.014 |
| | (0.10) | (0.23) | (0.25) |
| *SIZE* | | 0.023*** | 0.024*** |
| | | (6.09) | (6.32) |
| *BTM* | | -0.010*** | -0.009*** |
| | | (-3.39) | (-2.80) |
| *EARNINGS* | | 0.014*** | 0.013*** |
| | | (3.70) | (3.40) |
| *BIG4* | | | -0.042** |
| | | | (-2.00) |
| *ZSCORE* | | | 0.004 |
| | | | (0.73) |
| *Constant* | 0.019 | -0.144 | -0.107 |
| | (0.24) | (-1.53) | (-1.12) |
| *No. of Observations* | 6300 | 6150 | 6150 |
| *Adj-$R^2$* | 0.021 | 0.031 | 0.032 |

Table 4 presents coefficients estimates from model (4) for first-time severe GCMO firms where *NET_BUY* is average percent net buying activity in firm i on month m and is measured as total shares purchased minus total shares sold scaled by total shares purchased plus total shares sold in month m. *PREi,m (POSTi,m)* is a dummy variable equal to one if trading month represents the mth month prior to (after) the GCMO filing date; 0 otherwise, *SEVEREi* is a dummy variable equal to 1 if firm i receives a first-time severe GCMO; 0 otherwise. A Severe GCMO is one that indicates both issues related to financial performance and difficulties obtaining financing. Numbers in parentheses are t-statistics calculated using standard errors per White (1980). ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively. Variable definitions are in Appendix 1.

Table 5
Monthly OLS Regressions on Institutional Investor Reaction to First-Time GCMOs with the Control Sample

| *Dependent Variable: NET_BUY* | | | |
|---|---|---|---|
| *Panel A* | | *Panel B* | |
| *First-Time GCMOs vs. Control Sample* | | *Severe First-Time GCMOs vs. Control Sample* | |
| *PRE6xFGC* | -0.024 | *PRE6xSEVERE* | -0.041 |
| | (-0.53) | | (-0.65) |
| *PRE5xFGC* | -0.041 | *PRE5xSEVERE* | -0.016 |
| | (-0.86) | | (-0.24) |
| *PRE4xFGC* | -0.057 | *PRE4xSEVERE* | -0.124* |
| | (-1.22) | | (-1.93) |
| *PRE3xFGC* | -0.068 | *PRE3xSEVERE* | -0.100 |
| | (-1.43) | | (-1.55) |
| *PRE2xFGC* | -0.144*** | *PRE2xSEVERE* | -0.154** |
| | (-3.01) | | (-2.34) |
| *PRE1xFGC* | -0.207*** | *PRE1xSEVERE* | -0.265*** |
| | (-4.54) | | (-4.33) |
| *POST1xFGC* | -0.077* | *POST1xSEVERE* | -0.162** |
| | (-1.70) | | (-2.54) |
| *POST2xFGC* | -0.127*** | *POST2xSEVERE* | -0.223*** |
| | (-2.76) | | (-3.61) |
| *POST3xFGC* | -0.118** | *POST3xSEVERE* | -0.184*** |
| | (-2.58) | | (-2.98) |
| *POST4xFGC* | -0.065 | *POST4xSEVERE* | -0.090 |
| | (-1.48) | | (-1.56) |
| *POST5xFGC* | 0.037 | *POST5xSEVERE* | 0.017 |
| | (0.85) | | (0.29) |
| *POST6xFGC* | -0.009 | *POST6xSEVERE* | -0.002 |
| | (-0.21) | | (-0.04) |
| *Controls* | Included | *Controls* | Included |
| *Constant* | 0.015 | *Constant* | 0.033 |
| | (0.13) | | (0.30) |
| *No. of Observations* | 10176 | *No. of Observations* | 7236 |
| *Adj-$R^2$* | 0.032 | *Adj-$R^2$* | 0.034 |

Table 5 presents coefficient estimates from model (4) with the following treatment sample selections: Model (5) is all first-time GCMO firms; Model (6) is Severe first-time GCMOs. A Severe GCMO is one that indicates both issues related to financial performance and difficulties obtaining financing. The control sample for both models consists of the financially distressed non-GCMO firms. NET_BUY is average percent net buying activity in firm i on month m and is measured as total shares purchased minus total shares sold scaled by total shares purchased plus total shares sold in month m. PREi,m (POSTi,m) is a dummy variable equals to 1 if trading month represents the mth month prior to (after) the GCMO filing date; 0 otherwise. FGC (Severe) is a dummy variable equal to one if firm i belongs to the first-time GCMO group (Severe first-time GCMO group); 0 if it belongs to the control sample. Numbers in parentheses are t-statistics calculated using standard errors per White (1980). ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively. Variable definitions are in Appendix 1.

Table 6

Monthly OLS Regressions on Institutional Investor Reaction to GCMOs by Time Period

| *Dependent Variable: NET_BUY* | | |
|---|---|---|
| | *Years<=2006* | *Years>=2007* |
| *PRE6* | -0.099* | -0.060 |
| | (-1.93) | (-1.13) |
| *PRE5* | -0.034 | -0.076 |
| | (-0.68) | (-1.36) |
| *PRE4* | 0.034 | -0.174*** |
| | (0.63) | (-3.25) |
| *PRE3* | -0.082 | -0.062 |
| | (-1.52) | (-1.13) |
| *PRE2* | -0.128** | -0.043 |
| | (-2.29) | (-0.78) |
| *PRE1* | -0.140*** | -0.099* |
| | (-2.60) | (-1.88) |
| *POST1* | -0.156*** | -0.035 |
| | (-2.93) | (-0.66) |
| *POST2* | -0.166*** | -0.050 |
| | (-2.99) | (-0.96) |
| *POST3* | -0.093* | -0.063 |
| | (-1.73) | (-1.24) |
| *POST4* | 0.017 | -0.052 |
| | (0.33) | (-1.07) |
| *POST5* | 0.120** | 0.048 |
| | (2.41) | (1.00) |
| *POST6* | 0.118** | -0.018 |
| | (2.56) | (-0.39) |
| *Controls* | Included | Included |
| *Constant* | -0.247** | -0.022 |
| | (-2.45) | (-0.32) |
| *No. of Observations* | 2865 | 3285 |
| *Adj-$R^2$* | 0.039 | 0.019 |

Table 6 presents coefficient estimates from model (3) for all first-time GCMO firms where NET_BUY is average percent net buying activity in firm i on month m and is measured as total shares purchased minus total shares sold scaled by total shares purchased plus total shares sold in month m. PREi,m (POSTi,m) is a dummy variable equal to one if trading month represents the mth month prior to (after) the GCMO filing date; 0 otherwise. Numbers in parentheses are t-statistics calculated using standard errors per White (1980). ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively. Variable definitions are in Appendix 1.

Appendix 1
Variable Definitions

| | |
|---|---|
| *NET_BUY* | is the monthly net buying activity by the ANCERNO investors and measured as total dollar value of the shares purchased minus total dollar value of shares sold scaled by total dollar value of the shares purchased plus total dollar value of shares sold in a given month, |
| *ASSETS* | are the total assets of the firm at the end of the fiscal year related to the audit report, |
| *BIG4* | is a dummy variable equal to one if the external auditor is a top four auditor (EY, PWC, Deloitte and KPMG), 0 otherwise, |
| *BTM* | is the book-to-market and measured as book value of equity scaled by the market value of equity at the fiscal year related to the audit report, |
| *EARNINGS* | is annual earnings surprise measured as the difference between current year annual earnings before extraordinary items and last year annual earnings before extraordinary items scaled by the market value of equity from last year, |
| *POST* | is a dummy variable equal to one if trading period covers the month after the audit report filing date; 0 otherwise, |
| *PRE* | is a dummy variable equal to one if trading period covers the month prior to the audit report filing date; 0 otherwise, |
| *Price* | is the stock price in $ at the fiscal year related to the audit report, |
| *SEVERE* | is a dummy variable equal to one if the GCMO indicates more than two issues related to manufacturing or operating performance issues, or difficulties obtaining financing, otherwise 0, |
| *SIZE* | is the market value of the firm at the end of the fiscal year related to the audit report, |
| *ZSCORE* | is an overall measure of firm distress presented in Zmijewski (1984) that is calculated using the most recent fiscal year prior to our 15-month investigation window. The distress model includes three components: return on assets, debt to assets, and the current ratio, and where higher scores indicate higher levels of financial stress. |

Notes

[1] Employing changes in quarterly holdings may not necessarily fully reveal institutional trading activity during the months of the quarter. For example, buying 1 million shares in January and selling 1 million shares in February results in no net change in holdings, which also suggests no trading during the quarter when in fact a material amount of trading activity has taken place.

[2] Source: Securities Industry Association Fact Book (2015).

[3] Jegadeesh and Tang (2010) note that the top performing mutual fund manager in 2008 attributed his success to focusing on companies with strong competitive positions, strong balance sheets and strong cash flows, suggesting that his ability to process public information gives him an advantage over other investors.

[4] Please see http://www.wsj.com/articles/how-some-investors-get-special-access-to-companies-1443407097?mod=djemCFO_h&mg=id-wsj

[5] Data representatives at *Ancerno Ltd.* Confirmed that investors submit all their trades to *Ancerno Ltd.* For transaction cost analysis. Therefore, our sample includes all institutional investor trading data for those funds contracting with *Ancerno, Ltd.*

[6] *Ancerno, Ltd.* stopped providing individual investor codes in their released data after 2010. Therefore, our sample goes from 2002 to 2010 and includes all institutional investor trading data available for that period.

[7] We use 636 firms in the full sample (all GCMOs) regressions since *BTM* variable is missing in 14 observations. We also use 412 firms while investigating the severity of first-time GCMOs in the multivariate setting.

[8] As further discussed in our Additional and Robustness Tests section, we also adopt a distressed non-GCMO control sample approach and compare trading on our first-time GCMO firms to trading on the distressed non-GCMO control sample. Results of those tests are very similar to our main analyses and all of our inferences remain unchanged.

[9] Based on our definition of a "first-time" GCMO, firms could appear in our sample more than once over our 2002-2010 sample period. We identify three firms that appear in our sample more than once. Eliminating observations subsequent to the first occurrence produces results that are substantively the same as those presented in Table 3 and all of our inferences remain unchanged.

[10] An alternative reason for our audit firm size effect may be that the investors in the *Ancerno, Ltd.* data may be more likely to follow large companies audited by Big 4 auditors. For example, Cready, Kumas, and Subasi (2018) find that the number of *Ancerno, Ltd.* fund managers trading around earnings announcements is three to four times larger for the tercile of the largest companies than for the tercile of the smallest companies. Accordingly, we control for company size (*SIZE*) in our regression model. However, to the extent that Big 4 auditors more likely audit larger companies (Alali, Elder, & Zhou 2018), and this is not adequately captured in our *SIZE* measure, our results may be reflective of the interest of investors in large companies and not due to the Big 4 audit firms, per se.

[11] In the control sample approach, we do not include the benchmark period (from *month-9* to *month-7*) since the control firms now serve as the benchmark comparison.

[12] Notice that such severe reasons leading to first-time GCMO are not applicable to the control firms since they do not receive GCMOs.