Going Concern Opinions and Information Asymmetries

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Going Concern Opinions and Information Asymmetries

Abstract

A wide body of literature examines the market reaction to modified going concern (GC) opinions. The results are mixed although most of prior studies find that stock prices react negatively to modified GC opinions (e.g., DeFond and Zhang 2014). Recently, Myers et al. (2018) cast doubts on the validity of these results arguing that the results in prior literature are confounded by earnings announcements. Specifically, they note that the vast majority of GC opinions are issued concurrently with earnings announcements and find that, after controlling for the effect of earnings announcements, stock returns are not affected by modified GC opinions. In this study, *we examine the effect of the modified GC opinion announcements on information asymmetries*. We measure information asymmetries using the price impact of trades (and, as alternative measure, the bid-ask spread), based on intraday data. We find that information asymmetries substantially increase after a GC opinion and that the increase is driven by GC opinions which are filed outside the earnings announcement window. The above results suggest that *modified GC opinions do increase information asymmetries and consequently convey useful information to market participants*. Notably, we also find that the increase in information asymmetries is strongly mitigated when the audit opinions are preceded by management disclosures about upcoming GC opinions which are required by ASU 2014-15. We contribute to prior literature in two ways. First, to the best of our knowledge, prior literature has only examined the price reaction to going concern opinions. In contrast to prior literature, we concentrate on information asymmetry, which is a highly relevant aspect of market quality and allows us to unravel new implications. Second, we contribute to the debate on whether GC opinions provide useful information to investors. This question is highly contentious in recent literature (Myers et al. 2018).

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1. Introduction

The going concern (GC) assumption is a fundamental accounting concept, whereby in the preparation of the financial statements the ability of the company to continue to operate and meet its financial obligations in the foreseeable future is assumed. The GC assumption was incorporated in the US GAAP in 1978 in the Statement of Financial Accounting Concepts No.1, Note 10. Auditing standards require auditors to modify their audit report if there is substantial doubt about the ability of the client to continue as a going concern.[1] Recently, managers have also been required by US GAAP to disclose the firm's ability to continue as a going concern at interim and annual periods.[2] GC disclosures by auditors and managers are important so that investors can have all the necessary information available in a timely manner in order to make informed decisions.

Prior literature extensively examines the market's response to modified going concern opinions (hereinafter GC opinions) to test whether they provide information to market participants in their assessment of bankruptcy. The results of this field of research are mixed. The majority of prior studies (e.g., Dopuch et al. 1986, Menon and Williams 2010, Blay et al. 2011) provide evidence that the market responds negatively to the disclosure of a GC opinion. DeFond and Zhang (2014), in their review of the auditing literature, argue that market participants place an important value on the information in GC opinions, even though the exact timing of the reaction is in question. However, in a more recent study, Myers et al. (2018) cast doubts on the validity of the findings in prior research on the market's reaction to GC opinions. Specifically, they note that most GC opinions are issued concurrently with earnings announcements, thus confounding researchers' ability to attribute the market's response to the

[1]AU Section 341: The Auditor's Consideration of an Entity's Ability to Continue as a Going Concern, AICPA (hereinafter AU Section 341); AS 2415: Consideration of an Entity's Ability to Continue as a Going Concern, PCAOB (hereinafter AS 2415);

[2]Accounting Standards Update No. 2014-15 - Presentation of Financial Statements - Going Concern Subtopic 205-40: Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern, US GAAP (hereinafter ASU2014-15).

information contained in GC opinions. They show that the market's response to GC opinions incremental to other information released concurrently with those opinions is weak and much smaller in magnitude than documented in prior studies. They also show that management disclosures in earnings announcements, not the release of a GC opinion, provide investors with the information needed to assess the likelihood of bankruptcy. The results of Myers et al. (2018) are also in line with some early studies (Elliott et al. 1982, Dodd et al. 1984) which find that the market's reaction to GC opinions is observed much prior to the disclosure of the opinion.

In this paper, we build on this literature by asking the following question: *if GC opinions are truly informative, do they impact information asymmetry when they are released?* Examining information asymmetry is important for at least two reasons. First, information asymmetry is a pervasive friction in capital markets (Amiram et al. 2016). Accordingly, regulators are highly concerned about the detrimental effect of information asymmetry on market quality. The PCAOB has expressed preoccupations about growing information asymmetry;[3] it has also indicated that one of the main roles of auditing is to reduce information asymmetry and recommended examining the potential decrease in information asymmetry to assess the effectiveness of an audit standard.[4] Second, examining changes in information asymmetry allows us to investigate the informativeness of the GC opinions. It is worthwhile to note that, around an information event, information asymmetries do not necessarily move in the same direction as stock returns. This is because divergence of opinions may prevent prices from moving and because, more in general, information asymmetries may change

[3] "The traditional pass/fail format of the auditor's report, while useful, gives almost no clue to either the auditor's work on the audit or the extent of the auditor's knowledge about its client's business. The informational asymmetry between auditors and investors, not to mention investors and company management, has of late grown due to growing complexity in financial reporting, particularly the increased use of estimates, fair value measurements and the use of a myriad of new financial instruments and financing techniques, including derivatives." (See PCAOB Statement on Reproposed Auditing Standard on the Auditor's Report 2016).

[4] "Broadly understood, the audit serves to enhance the reliability of certain information companies disclose, thus addressing the asymmetry of information that exists between a public company's management and its investors". "The benefits of a standard generally correspond to the need for standard setting, and should therefore be framed as such. The benefits of a standard that reduces asymmetric information, for example, generally include increases in allocative efficiency in capital markets". (See PCAOB Staff Guidance 2014).

independently from changes in the supply and the demand for a stock. Accordingly, prior research finds that information asymmetries around earnings announcements (e.g., Lee et al. 1993, Krinski and Lee 1996, Stoumbos et al. 2022), management forecasts (Coller and Yohn 1996) and analyst forecasts (Amiram 2016) have different patterns relative to stock returns.[5] Hence, examining information asymmetries allows us to complement the results obtained by prior research on the informativeness of GC opinions which only relies on stock returns.

We argue that, if GC opinions provide useful information related to financial distress, they have the potential to affect information asymmetry. Specifically, after a GC opinion is issued, uncertainty about the future prospects of the company increases. Skilled investors will attempt to determine the impact of GCs on the future prospects of the company by generating private information and increasing information asymmetry. We exploit the Kim and Verrecchia (1994) framework to examine whether GC opinions are informative to the market. If GC opinions are informative, they should help informed traders leverage their private information when GC opinions are publicly announced, which will increase information asymmetry. Further, as investors attempt to determine the impact of GCs on the future prospects of the company, they have a greater incentive to obtain private information, which also increases information asymmetry.

Our main measure of information asymmetry is the price impact of trades. The price impact estimates the adverse selection risk perceived by liquidity providers based on the price adjustments observed subsequent to a transaction and captures market makers' assessment of the proportion and the extent of information asymmetry between informed and liquidity traders (Bhattacharya et al. 2013, Bakarat et al. 2014, Glosten and Milgrom 1985). We follow Myers et al. (2018) in carefully controlling for contemporaneous information released with the GC

[5] We note that the GC opinions are different from earnings announcements in at least two respects: (1) earnings announcements are anticipated whereas new GC opinions are not; (2) earnings announcements may contain good or bad news whereas GC opinions convey bad news.

opinions. This allows us to isolate a sample of GC opinions that are relatively free from other information that may influence our measures of information asymmetry. Our main tests document that information asymmetry increases in the days surrounding the issuance of a GC opinion and that this increase is driven by GC opinions released outside the earnings announcement window. The effect of a GC opinions outside the earnings announcement is also economically highly significant; in particular, the price impact increases by approximately 102%, after controlling for its cross-sectional determinants. These results are in contrast with those obtained with stock returns. Specifically, we find that, consistent with Myers et al. (2018), stock returns around GC opinions outside the earnings announcement window do not significantly change. Our findings are in line with the view that GC opinions are perceived as useful by market participants.

In additional analyses, we examine whether a firm that issues a prior warning about an upcoming GC opinion influences the market's response to the release of the actual GC opinion. To do this, we manually inspect the filings of the firms in the year leading to the audit opinion examined. We show that the effect of GC opinions on information asymmetries is substantially stronger if the opinions are unanticipated. These results further support the view our identification strategy. In addition, they provide evidence on the relevance of management warnings about forthcoming GCs, which are required by ASU 2014-15.

Our findings are robust to several sensitivity analyses. To alleviate the concern that our results may be affected by systematic differences between the GC firms and the control sample, we replicated our analysis by restricting the sample to distressed firms as well as by using a PSM approach. Despite the strong decrease in the number of observations used, the results we obtain with these sets of tests are similar to our main analysis. We also consider a number of alternative measures of information asymmetries and obtain similar results. Specifically, we use the volume-weighted price impact, the dollar value-weighted price impact, the quoted

percent spread and the effective spread. We also obtain similar results when we replicate the analysis in the period before and after ASU 2014-15, separately. Notably, ASU 2014-15 introduces the requirements for managers to disclose GC uncertainties in the quarterly and annual reports; Wang (2020) finds significant market reactions around these disclosures.

We make at least two important contributions to prior research on the consequences of GC opinions. First, prior literature almost exclusively focuses on how investors respond to GC opinions via returns – we are the first to examine how GC opinions affect information asymmetry. As mentioned, information asymmetry is highly relevant from the point of view of regulators. Our results identify an unintended consequence of adverse audit opinions, being the increase in information asymmetries. Second, examining information asymmetry allows us to gain additional insights, relative to research focusing on stock returns, on the informativeness of GC opinions. This field of research has so far provided conflicting results. Our findings are in line with the view that GC opinions are perceived as useful by market participants. In addition, we push the literature forward by providing evidence on the moderating role of management warning on the informativeness of GC opinions. This finding is particularly relevant given the changes in the disclosure requirements brought about by ASU 2014-15.

2. Motivation and related literature

Background information and literature review on the consequences of going concern opinions

Professional Auditing Standards, Financial Accounting Standards and Federal Securities law require certain GC disclosures to be made when there is a substantial doubt about a firm's ability to continue as a going concern.[6] In case of substantial doubt regarding the ability of the entity to continue as a going concern, professional Auditing standards require the auditor to state their concerns and to assess management's plans for dealing with the adverse effects

[6]AU Section 341; AS 2415; ASU 2014-15

of the conditions and events within a "reasonable period of time" (AS 2415).[7] The relatively recent standard ASU 2014-15 by US GAAP in 2014 defines "substantial doubt" and requires management to assess the company's ability to continue as a GC at interim and annual periods, providing clear guidance on where, when and how the related disclosures shall be made. ASU 2014-15 is an example of the regulators' continuous effort in the recent years to ensure that important information about firm value and distress are communicated to investors, creditors and other financial statements users in a timely manner so that they can make informed decisions.[8]

Prior literature has examined the informativeness of auditors' GC opinions mainly by looking at the market reaction (stock returns) around the GC disclosures. The findings of this branch of research are mixed although the majority of them are consistent with the notion that GC opinions are relevant to market participants. One stream of the GC literature finds an adverse market reaction to GC disclosures and concludes that GC disclosures are informative to investors about firm value and distress and have significant economic effects on the disclosing firms. Dopuch et al. (1986) and Menon and Williams (2010) study the market reaction to the GC disclosures in the three-day window after the GC file date and find a negative stock price reaction of 5 to 6 percent. Menon and Williams (2010) find that the magnitude of the negative stock price reaction is greater for firms with institutional ownership, suggesting that sophisticated investors react strongly to the GC uncertainty and the high costs this uncertainty conveys. They argue that GC opinions are some of the most important "bad news" signal to the market and conclude that investors adjust their perceptions of company value as a

[7] "The auditor has the responsibility to evaluate whether there is substantial doubt about the entity's ability to continue as a going concern for a reasonable period of time, not to exceed one year beyond the date of the financial statements being audited hereinafter referred to as a reasonable period of time" (AS 2415).

[8] The SEC's Regulation Fair Disclosure and Regulation G are additional examples where in the recent years the regulatory framework is being adjusted to improve financial reporting so that important material information is communicated to the market in a more timely and transparent way (Myers et al., 2018). Consequently, in the recent years, "bad news" is required to be disclosed by management timelier thus GC disclosures may eventually be less informative at the time that they are disclosed by the auditors (Myers et al., 2018).

reaction to the GC disclosures. Similarly, Blay et al. (2011) argue that GC disclosures are informative about risk and financial distress and investors react to GC opinions by adjusting their perceptions of company value. Jones (1996) examines the market reaction to audit reports for firms in financial distress. He finds that the market reaction for the firms with GC disclosures is negative and the market reaction for the firms that receive audit reports without GC mention is positive. DeFond and Zhang (2014) review the auditing literature and argue that market participants place an important value on the information in GC opinions, even though the exact timing of the reaction is in question.

More studies support the view that auditors' GC opinions are value relevant.[9] Chen and Church (1996) and Holder-Webb and Wilkins (2000) study the market reaction to bankruptcy filings of firms based on whether they have previously received auditors' GC opinions and find that the negative market reaction is much lower in magnitude for the firms that have received GC opinions. They argue that GC disclosures are informative on the likelihood of bankruptcy and that GC opinions affect the perceptions of the investors about company value and lead to a smaller reaction when bankruptcies are disclosed. Loudder et al. (1992) and Fleak and Wilson (1994) study the likelihood of a firm to receive a GC opinion and find that "unexpected" GC disclosures are associated with a higher in magnitude negative market reaction. Amin et al. (2014) and Chen et al. (2016) find that firms that receive auditors' GC opinions have higher costs of capital and higher cost of debt. Willenborg and McKeown (2000) study IPO firms that have received a GC opinion and find that these IPOs experience a much lower in magnitude first-day under-pricing and higher stock delisting within two years of IPO, concluding that GC

[9] Prior research has also examined the effect that GC disclosures have on the auditors that issue them. Carcello and Neal (2003) study auditor dismissal for the Big 6 auditors that issue an unfavourable report and find that new auditors' GC opinions affect auditor retention decisions. Kaplan and Williams (2013) study the litigation risk for auditors that issue GC opinions and find a positive relationship between auditors that issue GC opinions and high litigation risk, however, they find that when auditors issue GC opinions for client firms in financial distress, they are more likely to reduce the likelihood of receiving large financial settlements in lawsuits. Blay and Geiger (2013) find that auditors who file GC opinions experience lower future fees from the client firms that received the GC opinion.

disclosures provide useful information to uninformed investors about firm value. Similarly, Bochkay et al. (2018) study IPO firms that have received a voluntary management GC uncertainty disclosure and find that these IPOs experience downward revisions and lower in magnitude initial returns.

In contrast, a recent paper by Myers et al. (2018) casts doubts on the validity of the findings of prior research on the market reaction to GC opinions. Myers et al. (2018) consider the timing of the GC opinions in relation to the three-day window around the earnings announcements (EAs) and find that, after controlling for the effect of the EAs, GCs filed concurrently with the EAs do not result in a stronger market reaction; thus, they suggest that the negative market reaction to EAs is confounded by other information in the EAs and that the incremental effect of the market response of the new GCs to the EAs is weak. The results in Myers et al. (2018) are also in line with some early studies, which find that the market reaction to GC opinion takes place much prior to the release of the opinion. Specifically, Elliott (1982) study the market reaction around GC discourses and find that negative returns are observed in 45 weeks prior to the GC disclosure file date, thus they conclude that GC opinions are filed together with or after other disclosures of material events that communicate firm distress to the market, thus investors are already aware of this information and have already adjusted their perception of firm value much prior to the GC opinion filing. Similarly, Dodd et al. (1984) find that negative returns are observed much prior to the GC opinions filings, suggesting that markets react to "bad news" announced prior to the GC opinions and the markets are already aware of the GC uncertainty by the time GC opinions are filed. Again in line with the findings in Myers et al. (2018), in his survey of capital market research in

accounting, Kothari (2001) shows that firms disclose GC filings alongside with other important "bad news" disclosures, which will all together cause a negative market reaction.[10]

Other studies show that GC disclosures are not as value relevant as previously suggested. Geiger and Rama (2006) find a considerable amount of "audit reporting errors", including Type I and Type II going concern reporting errors (modified GC opinions for client firms that subsequently do not go bankrupt and unmodified GC opinions for client firms that do subsequently go bankrupt respectively). Similarly, Venuti (2004) studies whether major bankruptcy filings in the period 2001 to 2002 received an auditor's GC opinion prior to bankruptcy and finds that none of these firms received an auditor's GC opinion. Lennox and Kausar (2017) find that auditors are more likely to issue GC opinions when estimation risk of bankruptcy likelihood is higher because they are conservative and risk averse. Blay and Geiger (2013) find that auditors are more likely to issue a GC opinion to client firms that pay lower audit fees as compared to similarly distressed client firms that pay higher fees. Ponemon and Raghunandan (1994) study whether users of audit reports perceive the term "substantial doubt" differently and find a high difference in the perceptions of the audit reports users. Finally, Wang (2021) examines GC opinions in relation to the regulatory framework and compares unaudited voluntary management GC disclosures in the pre- ASU2014-15 period and mandatory unaudited management GC disclosures in the post- ASU2014-15 period and finds that the market reacts negatively to GC doubt only after ASU2014-15.

We note that a further reason why GC opinions may not lead to significant price changes is that the market is partly already aware of the GC uncertainties by the time auditors' file their GC opinions (Dodd et al. 1984, Elliot 1982, Kothari 2001). This is consistent with the view expressed by FASB's Thomas Linsmeier in the presentation of ASU2014-15, where he

[10] On a related note, Mayew et al. (2015) study whether management disclosures about the firm's ability to continue as a GC are predictive of the likelihood of bankruptcy and find that unaudited voluntary management GC disclosures can predict bankruptcy as early as three years prior to the bankruptcy filing.

attributes the low future-oriented informativeness of the auditors' GC disclosures to their timing requirement, which is twelve months after the date the financial statements are issued or available to be issued. Consequently, the market is notified about the GC uncertainty "*only when it is probable that an entity will be unable to meet its obligations as they become due*" so the market would already know about the firm's distress and GC uncertainty by the time auditors file the GC disclosures.[11]

Research question: going concern opinions and information asymmetries

In their seminal paper, Kim and Verrecchia (1994) develop a model that shows how accounting disclosures can increase information asymmetry. The disclosures in their model have two important features: they disseminate data for which there is likely no alternative source of information and they include information that likely leads to different interpretations of a firm's performance. In their model, some traders expend time and effort to process firm disclosures into private information about the firm's performance. Kim and Verrecchia (1994) suggest these types of traders may be institutional investors, financial analysts, and managers at competing firms. These traders then use public disclosures, e.g., earnings announcements, to impound their private information into prices, which creates or exacerbates information asymmetries between market makers.

We exploit Kim and Verrecchia (1994) framework to examine whether GC opinions are informative to the market. If GC opinions are informative, they should help informed traders leverage their private information when GC opinions are publicly announced, which

[11] ASU 2014-15 presents the opinion of Prof. Thomas Linsmeier, member of the FASB, where he states *"requiring disclosure only when it is probable that an entity will be unable to meet its obligations as they become due within one year after the date the financial statements are issued (or available to be issued), the guidance in this Update will provide information about going concern uncertainties that is too late to be of significant benefit to users of financial statements. Users indicate that when disclosures are provided only when it is probable that an entity will be unable to meet its obligations as they become due, they typically already know about the uncertainty and, thus, the disclosures are at best confirmatory, providing little or no predictive value."*

will increase information asymmetry. Further, as investors attempt to determine the impact of GCs on the future prospects of the company, they have a greater incentive to obtain private information, which also increases information asymmetry. As Amiram et al. (2016) note, it is also possible that the disclosure of new information decreases information asymmetry if the disclosure reveals new information to unsophisticated investors which was known by sophisticated investors. Therefore, they argue that the ultimate effect of a disclosure on information asymmetry depends on how the information revealed relates to the information previously held by sophisticated investors. Relatedly, as suggested by Menon and Williams (2010), it is possible that GC opinions reveal information that is new to sophisticated investors because auditors have access to insider information (e.g., management plans and negotiations with clients), which they are required to publicly reveal in their GC opinions; AU Section 341 explicitly requires auditors to assess management's plans to alleviate the GC uncertainty.

Prior literature has examined the effects of the disclosure of accounting information on information asymmetries. Lee (1993) and Krinski and Lee (1996) provide evidence of increases in the bid-ask spread and in the adverse selection component of the bid-ask spread around earnings announcements. Relatedly, Stoumbos (2022) documents that the bid-ask spread increases in the period between two earnings announcements. Focusing on analysts' forecasts, Amiram et al. (2016) show that information asymmetries, measured using the bid-ask spread, market depth and the price impact of trades, decrease after the information release. Coller and Yohn (1996) find that the bid-ask spread increases around the disclosure of management forecasts. It is interesting to note that these studies find that information asymmetries do not move in the same direction as stock returns. Specifically, stock returns move in the direction of the news whereas information asymmetries change unconditional on the sign of the news. Therefore, examining information asymmetries allows us to obtain additional insights on the informativeness of disclosures relative to prior research which relies on stock returns only.

In the empirical analysis, we address this main research question: *Do going concern opinions affect information asymmetries?* Finding evidence of an increase in information asymmetries after GC opinions would support the view that GC opinions are informative. Given the lack of consensus in prior literature, we argue that whether going concern opinions affect information asymmetries is an open empirical question.

3. Research design

Sample selection and composition

We examine the modified going concern opinions (GC) issued for US firms in the accounting periods 2012-2018. We obtain data on audit opinions from Audit Analytics Opinions. Data on information asymmetry measures are obtained from 'Intraday indicators from WRDS' provided by the NYSE Trade and Quote (TAQ) intraday dataset. We use daily data on information asymmetry measures, which are calculated using intraday data. We obtain stock return data from the Center for Research in Security Prices (CRSP) and accounting data from Compustat. We obtain bankruptcy data from Audit Analytics Bankruptcy Notification Database. We start with the Audit Analytics Opinions dataset and merge with TAQ, CRSP, Compustat and Audit Analytics Bankruptcies. We then drop the observations with missing data to compute stock returns, the measures of information asymmetry and the control variables. Following Myers et al. (2018), we only focus on the going concern observations that are "new"; accordingly, we exclude the firms which are assigned a GC opinion in the prior year.[12] We exclude the observations with missing earnings announcement (EA) dates and exclude GC opinions that were filed prior to the EA date. Finally, to focus on those GC observations that

[12] Menon and Williams (2010) follow a different methodology and only keep first-time GCs in their sample. They keep GC observations that have not received any GC opinions in all observable prior years. We also follow Menon and Williams (2010) and compute the first-time GC variable *FSTGC.* We estimate the *FSTGC* variable and run our main and additional tests as part of our untabulated analysis; the results are unchanged Our total sample consists of 22,397 observations, out of which 21,996 are non-first-time GCs and 401 are first-time GCs. All our tests are consistent with our reported results. We follow Myers et al. (2018) and present our main tests using the new GCs *NGC* variable because this variable allows for a larger sample, more powerful tests and overcomes the problem of limited availability of the audit reports history.

are likely to be least anticipated, we follow Myers et al. (2018) and Wang (2021) and exclude firms that have filed for bankruptcy prior to the GC opinion file date, including all the firms that have filed for Chapters 7, 11 and 15.

Table 1 Panel A describes our sample selection procedures. Our final sample consists of 22,568 firm-year observations (5,091 firms). We note that, for some of our additional tests, we use a lower number of observations due to data availability for the calculation of alternative measures of information asymmetry. Table 1 Panel B shows our sample composition. The focus of our analysis in on the indicator variable *NGC*, which is a dummy variable for new modified going concern opinions. Out of the total sample, 430 firm-year observations are assigned a new GC opinion and 22,138 firm-year observations are not assigned a new GC opinion. We consider the timing of the GC filings relative to the EA. Out of the 430 new GC firm-year observations, 116 have announced a GC opinion outside the EA window (i.e., the three-day window around the EAs) and 314 have announced a GC opinion within the EA window.

[Table 1]

Empirical model

We run the following regression to test the effect of new GC opinions on information asymmetries:

$$\Delta IA = b_0 + b_1 NGC + b_2 \Delta LNVLM + b_3 \Delta LNPRC + b_4 \Delta LNVLT + b_5 SIZE + b_6 LAGGEDIA + b_7 UE + b_8 BM + b_9 LEV \quad (1)$$

Δ refers to the difference between day (t+1) and day (t-1), where day (t) is the day when a GC is issued. The dependent variable *ΔIA* is the measure of information asymmetry, which,

in the main analysis, is the price impact of trades. The main variable of interest is *NGC*, which is the new GC indicator variable; it equals to one when a new GC is identified (*NGC = 1)* and zero otherwise (*NGC = 0)*. We choose the control variables of information asymmetry based on microstructure literature (e.g., Foucault et al. 2007; Boehmer et al. 2013). *LNVLM* is the natural logarithm of trading volume; *LNVLT* is the natural logarithm of the standard deviation of trade price; *LNPRC* is the natural logarithm of the trade price; *SIZE* is the natural logarithm of market value of equity; *LAGGEDIA* is price impact, the measure of information asymmetry, on day (t-1); *UE* refers to unexpected earnings, which is defined as the change in earnings between the previous and the current year, scaled by total assets in the previous year; *BM* is the natural logarithm of the book-to-market ratio; *LEV* is the natural logarithm of leverage.

Measuring information asymmetry

Our main measure of information asymmetry is the price impact of trades. Specifically, we use the simple average percent price impact. In additional tests we use a set of alternative measures of information asymmetry: the dollar value-weighted percent price impact, the share-weighted percent price impact, the time-weighted quoted percent spread and the simple average effective spread. All our measures of information asymmetry are obtained from TAQ (WRDS Intraday indicators); they are available at daily frequency and are calculated by WRDS using intraday data.

The price impact of trades estimates the adverse selection risk perceived by liquidity providers based on the price adjustments observed subsequent to a transaction and capture market makers' assessment of the proportion and the extent of information asymmetry between informed and liquidity traders (Bhattacharya et al., 2013; Bakarat et al., 2014; Glosten and

Milgrom,1985).[13] Analytical literature provides theoretical support for this measure as a proxy for information asymmetry and the simple average price impact is the most widely used measure of price impact in the literature (Kyle, 1985; Glosten and Milgrom, 1985). Our motivation for using the price impact as the main measure of information asymmetry is that, in a market with asymmetrically informed agents, trades convey information and therefore cause a persistent impact on the security price. Hasbrouck (1991) argues that the magnitude of the price effect for a given trade size is positively correlated with the proportion of informed traders, the probability of informed trading and the precision of the private information. Thus, the information effect of a trade should be measured as that which persists, motivating the use of price impact as a measure of information asymmetry. Market makers widen the bid-ask spreads and increase the price impact on high information asymmetry days in order to protect themselves from traders who are better able to process the public information (Levi and Zhang 2015). The price impact of trades has widely been used in the finance literature, as a measure of information asymmetry (Huang and Stoll 1996, Bessembinder and Kaufman 1997, Hendersott et al. 2011, Holden and Jacobsen 2014). The price impact has also been used in the accounting literature as a measure of information asymmetry (e.g., Bhattacharya et al. 2013).[14]

Following Holden and Jacobsen (2014), the price impact of trades is calculated using the midquote which is prevailing 5 minutes after a trade, computed as: [15]

$$Percent\ price\ impact_k = 2 * D_k * \frac{M_{k+5} - M_k}{M_k}$$

[13] Bakarat et al. 2014 states that the price impact of trades "*estimates the adverse selection risk perceived by liquidity providers based on the price adjustments observed subsequent to a transaction. For anticipated good (bad) news, the market maker expects the informed traders to submit buy (sell) orders. However, non-informed traders are equally likely to submit buy and sell orders, creating order flow imbalance. For an undervalued security this imbalance will tend to be positive and for an overvalued security negative. Market makers react to such order flow imbalances by widening spreads and adjusting quotes upward following buy orders and downward following sell orders. Hence, these price adjustments capture market makers' assessment of the proportion and the extent of information asymmetry between informed and liquidity traders*" (pp. 157).

[14] See, in particular, on pp. 484: "*We note that the information asymmetry proxy used by the study, the price impact of trade, is a direct measure of the adverse selection risk faced by liquidity providers as reflected in trading costs*."

[15] Notably, Hendershott et al. (2011) use the price impact at 5 minutes after a trade as a measure of adverse selection costs.

M_k is the midquote before the *k*th trade and M_{k+5} is the bid-ask midquote 5 minutes after the *k*th trade; D_k is an indicator variable for the sign of the trade that is 1 for buys and -1 for sells; the sign of the trade is defined based on the Lee and Ready (1991) algorithm if the trade is inside the prevailing NBBO, otherwise the tick test is used.

Our main measure of information asymmetry, the simple average price impact, is then calculated as the simple average of the price impact of all trades in a day, computed as (Holden and Jacobsen, 2014):

$$Simple\ average\ percent\ price\ impact\ (PIMEAN)_T = \frac{1}{N}\sum_{k=1}^{N} Percent\ price\ impact_k$$

N is the total number of trades on day *T*.

We also use two alternative measures of price impact: the dollar value-weighted percent price impact and the share-weighted percent price impact, calculated as follows.

$$Dollar\ value\ weighted\ percent\ price\ impact\ (PIVALW)_T = \frac{1}{N}\sum_{k=1}^{N} w_k * Percent\ price\ impact_k$$

N is the total number of trades on day *T* and $w_k = \frac{P_k * SHR_k}{\sum_{i=1}^{N} P_k * SHR_k}$; P_k is the price of the *k*th trade; SHR_k is the size (number of shares) of the *k*th trade.

$$Share\ weighted\ percent\ price\ impact\ (PIVOLW)_T = \frac{1}{N}\sum_{k=1}^{N} s_k * Percent\ price\ impact_k$$

N is the total number of trades on day *T*; $s_k = \frac{SHR_k}{\sum_{i=1}^{N} SHR_k}$; SHR_k is the size (number of shares) of the *k*th trade.

An alternative and widely used proxy of information asymmetry is the bid-ask spread. We further use the bid-ask spread as an alternative measure of information asymmetry to estimate Equation (1). Specifically, we use the time-weighted quoted percent spread and the simple average effective spread.

The quoted percent spread is defined as the difference between the ask and the bid, scaled by the midquote.

$$Quoted\ percent\ spread_s = \frac{A_s - B_s}{M_s}$$

A_s is the ask price during time interval *s*; B_s is the ask price during time interval *s;* M_s is the midquote during time interval *s*.

The time-weighted quoted percent spread is obtained as the time-weighted average of the quoted percent bid spread, where the weights are based on the prevailing time of the bid-ask spread during a trading day.

$$Time\ weighted\ quoted\ percent\ spread\ (QSPREAD)_T = \frac{1}{M}\sum_{k=1}^{M} h_k * Quoted\ percent\ spread_k$$

M is the total number of time intervals with different quotes on day *T*; $h_k = \frac{MS_k}{\sum_{i=1}^{M} MS_k}$; MS_k is the number of milliseconds corresponding to the *k*th time interval.

The effective spread, which is based both on transaction prices and quotes and it is defined as:

$$Percent\ effective\ spread_k = 2 * D_k \frac{P_k - M_k}{M_k}$$

P_k is the transaction price of trade *k*; M_k is the midquote before the *k*th trade and M_{k+5} is the bid-ask midquote 5 minutes after the *k*th trade; D_k is an indicator variable for the sign of the trade that is 1 for buys and -1 for sells; the sign of the trade is defined based on the Lee and Ready (1991) algorithm if the trade is inside the prevailing NBBO, otherwise the tick test is used.

The simple average percent effective spread is then computed as:

$$Simple\ Average\ Percent\ Effective\ Spread\ (ESPREAD)_T = \frac{1}{N}\sum_{k=1}^{N} Percent\ effective\ sread_k$$

N is the total number of trades on day *T*.

As argued, a limitation of the bid-ask spread as a proxy for information asymmetry is that it captures both information and non-information components of liquidity provision, in particular, inventory costs and order processing costs (Bhattacharya et al., 2013). Bessembinder (2003) and Hendersott et al. (2011) formally show how the price impact is related to the effective spread.

4. Results

Descriptive statistics and cross-correlations

Panel A of Table 2 reports descriptive statistics for the total sample. They are broadly consistent with prior literature. Panel B of Table 2 presents the correlations among the main variables in our model. Information asymmetry is positively associated with new GCs. This provides initial evidence of a positive effect of GC opinions on information asymmetries.

[Table 2]

Stock price reaction to GCs

For the purpose of a comparison with prior literature, we start our analysis by examining the stock price reaction to new GCs and EAs. We follow the research design in Myers et al. (2018). Panel A of Table 3 presents comparative descriptive statistics for the market response to new GCs. Consistent with our expectations, we find a negative stock price reaction to auditors' GC opinions in the three-day window around the GC filing date, averaging -3.4% for the subsample of firms whose GC opinions are issued within the EA three-day window (314 observations) and -1% for the subsample of firms whose GC opinions are issued after the EA three-day window (116 observations). The significant difference of -2.4% between the two subsamples suggests that the market's negative reaction to GC opinions is driven by GCs that are announced concurrently with the EA.

Panel B of Table 3 presents the market response to EAs. We test whether the filing of GC opinions further enhances the negative market reaction to EAs. Myers et al. (2018) argue that the expectation should be that if the EAs convey negative information (i.e., "bad news"), then GC opinions filed within the EA window further build up on the negative information of the EAs, thus we would observe more negative returns for GC filings within the EA window. However, unlike prior literature, Myers et al. (2018) show that new GCs filed concurrently with the EAs do not result in a stronger market reaction, thus, they suggest that the incremental

effect of the market response of the new GCs to the EAs is weak. We find a negative stock price reaction to EAs, averaging -3.2% for the subsample of firms that filed GC opinions within the EA three-day window (314 observations) and -3% for the subsample of firms that filed GC opinions after the EA three-day window (116 observations). The difference of -0.2% between the subsamples is not significant, which suggests that GCs do not convey additional relevant information relative to EAs. This finding is consistent with Myers et al. (2018) and implies that the negative market reaction to EAs is confounded by other information in the EAs and not by the GCs.

[Table 3]

We also examine the stock price reaction to GC opinions in the context of multiple regressions. Specifically, we regress CARs in the 3-day GCs on the indicator variable for new GC opinions (*NGC*) and a set of control variables. The results of these tests are reported in Appendix C. In column (1), we use the whole sample; in column (2), we only use the observations for which the audit opinions are filed after the EA window (i.e., the three-day window); in column (3), we only use the observations for which the audit opinions are filed within the EA window. We find a negative and significant coefficient on *NGC* in the whole sample and when the audit opinions issued concurrently within the EA window. However, the coefficient on NGC is negative but insignificantly different from zero. Overall, again in line with Myers et al. (2018), our findings suggest that the market reaction to new GCs is driven by the opinions released within the EA window.

Main results: GC opinions and information asymmetries

Table 4 presents our main results. We estimate equation (1) to examine effect of the GC opinions on information asymmetries. As a main proxy for information asymmetry, we use the simple average price impact of trades. Column (1) uses all firm-year observations with

available data. Column (2) uses only those firm-year observations whose audit report is announced after the EA window (i.e., outside the three-day window around the earnings announcement). Column (3) uses only those firm-year observations whose audit report is announced within the EA window. We find that the coefficient on the dummy for a new GC (*NGC*) is positive and significant in column (1). This implies that the announcement of GC opinions is associated with a significant increase in information asymmetry. Further, the coefficient on *NGC* is positive and significant when the GC is filed after the EA window in column (2), which suggests that GCs issued outside the EAs increase information asymmetries. By contrast, the coefficient on *NGC* is insignificant when the GC is filed concurrently with the EAs in column (3). which indicates that information asymmetries are not affected by the GC opinions when they are released within the EA window. We also note that the coefficient on *NGC* in the subsample where GCs are filed concurrently with the EA window is significantly different from the coefficient on *NGC* in the subsample where GCs are filed after the EA at the 5% level for columns (2) and (3).[16]

[Table 4]

These results are in contrast with those found using stock returns. Table 3 and the results in Myers et al. (2018) show that stock returns are not significantly affected by GCs when the audit opinions are issued outside the EA window. The stock price reaction to GCs is driven by the GCs released within the EA window and, thus, as suggested by Myers et al. (2018), it is likely to be determined by the disclosures related to the EAs. On the contrary, our results in Table 4 show that GCs significantly affect information asymmetries, and the effect is driven by the GCs issued outside the EA window. It is unlikely that the audit opinions are

[16] As part of our untabulated analysis, we also replicate the analysis by making the following changes and obtain similar results. First, we add to the main and additional tests control variables related to analyst coverage and management guidance and obtain consistent results. Specifically, we add a dummy variable *NUMEST* that equals 1 if the firm has analyst following and zero otherwise. We further add a dummy variable *MGMT_GUIDE* that equals to 1 if a firm meets or beats its analyst forecasts and zero otherwise. All the results are consistent with our main findings.

systematically affected by other information events outside the EA window; therefore, our findings are in line with the view that GCs convey relevant information to market participants.

It is also worthwhile to observe that the effect of a GC opinions on information asymmetries is economically highly significant. The results indicate that, when audit opinions are filed outside the EA window, the price impact increases by approximately 102%, after controlling for its cross-sectional determinants.[17]

GC opinions and information asymmetries: The moderating effect of warnings

Next, we examine whether management's warnings about upcoming GC opinions affect the impact that GC opinions have on information asymmetries. We define "warning" as any indication by the management that a GC opinion is likely to appear in the upcoming 10-K filing. We use Python to extract GC notes in all 10-K and 10-Q filings in the four quarters prior to the GC opinion. We perform a textual analysis for the new GC firms in our sample to identify filings with warnings for an upcoming GC.

We then complete a manual check and download each 10-K and 10-Q SEC filing in the four quarters prior to the GC opinion and manually assess whether management has provided a warning for an upcoming GC opinion. We look for types of "warning" mentions such as: management evaluation in the going concern paragraph of each filing that an upcoming auditor's GC opinion is likely; management evaluations of high business risk, judged to be threatening to the continuity of the firm, in any SEC filing in the four quarters prior to the GC opinion.

We estimate our main model in a subsample with warnings about an upcoming GC and in a subsample without warnings about an upcoming GC, separately. The results are reported

[17] This is obtained as the ratio of the coefficient on *NGC* (column 2 of Table 4) to the mean of *LAGGEDIA* (Table 2).

in Table 5. In the subsample denoted "with warnings" we exclude the observations for which: (*NGC* = 1 and there is no management warning of an upcoming GC opinion). In the subsample denoted "without warnings" we exclude the observations for which: (*NGC* = 1 and there is a management warning of an upcoming GC opinion).

[Table 5]

Columns (1a) and (1b) employ all firm year observations with available data. Columns (1a), (2a) and (3a) present the effect of the GC opinions on information asymmetries for the "with warning" subsample. Columns (1b), (2b) and (3b) present the effect of the GC opinions on information asymmetries for the "without warning" subsample. Furthermore, similar to the main analysis, we consider the timing of the GC opinion relative to the earnings announcement (EA) window. In columns (2a) and (2b) we consider the audit opinions on information asymmetries after the EA window. Columns (3a) and (3b) present the effect of the GC opinions on information asymmetries within the EA window. The positive and significant coefficients on *NGC* in column (2a) and (2b) show that information asymmetry increases when GCs are filed outside the EA window. The magnitude and the significance of the coefficient on *NGC* in column (2b) is substantially higher than that of the coefficient on NGC in column (2a), suggesting that the increased information asymmetry outside the EA window is driven by the absence of a management warning. The coefficients on *NGC* in column (3a) and (3b) show that information asymmetries are not affected when GCs are filed concurrently with the EAs, which is consistent with our main results. As expected, the results suggest that the availability of warnings about upcoming GCs plays a moderating role on the effect of GCs on information asymmetry. These findings further support the interpretation that the change in information asymmetries around GC opinions is indeed due to the information disclosed in these opinions.

GC opinions and information asymmetries: propensity score matching

To alleviate the potential concern that our findings are due to systematic differences between the new GC firms and the control sample, we use a propensity score matching approach (PSM). Our treatment group is represented by the new GC firms where *NGC*=1 matched to the control group, which consists of the non-new GC firms (*NGC*=0). Our dependent variable is information asymmetry. We match the firms that belong to the treatment sample (*NGC*=1) with the firms that belong to the control sample (*NGC*=0) that have the closest characteristics. We follow Wang (2021) and choose, as our matching covariates, firm fundamental characteristics (*SIZE*: natural logarithm of market value of equity), characteristics that are predictive of bankruptcy and financial distress (*NITA*: net income by total assets; *LIQ*: total current assets by total current liabilities and *FINL* total debt by total assets) and auditor characteristics (*AUD*: a dummy variable that equals to one if the auditor belongs in the BIG4 and zero otherwise). Table 6 Panel A column (1) presents the results of 1st state logit regression before the propensity score matching. The variables *SIZE*, *LIQ* and *NITA* are negatively associated with *NGC* and *FINL* and *AUD* is positively associated with *NGC*. The pseudo R2 is 43 percent, which suggests that the independent variables in the logit regression can explain a considerable part of the variation in GC disclosures. We generate the propensity scores from the logit regression and, for the matching, we use the nearest k neighbour matching, without replacement, with a caliper of 0.01. Table 6 Panel A column (2) presents the results of the logit regression after the propensity score matching. Following the matching, all initially significant differences in covariates are gone. We have a total of 762 observations, with 381 treatment and 381 control observations. Table 6 Panel B shows that the means of the covariates after matching are not significantly different between the treatment and the control sample, thus providing further evidence on the balancing of the covariates.

[Table 6]

Panel C of Table 6 presents the results of our main model using the PSM approach. Column (1) shows the regression results for the whole sample (762 observations); column (2) shows the regression results for the subsample where GCs are filed after the EA window (256 observations); column (3) presents the regression results for the subsample where GCs are filed within the EA window (506 observations). It is remarkable that, despite the strong decrease in the number of observations, these findings confirm our main results. Specifically, focusing on the whole sample, information asymmetries increase after GC opinions; in addition, information asymmetries increase after GC opinions which are released outside the EA window. We note that (column 3), with this approach, we find that information asymmetries significantly increase also when GCs are released within the EA window; this result may be partly due to the effect of disclosures related to the earnings announcement.

GC opinions and information asymmetries: sample of firms in financial distress

To further address the potential concern that our findings may be due to systematic differences between the new GC firms and the control sample, we estimate Equation (1) using, as control sample, only financially distressed firms. We measure financial distress using the KZ-Index by Kaplan and Zingales (1997), the Z-score by Altman (1968) and the WW Index by Whited and Wu (2006). The results of these analyses are reported in Table 7.

[Table 7]

The KZ Index is a widely used accounting-based measure of financial distress developed by Kaplan and Zingales (1997). The index is calculated as a linear combination of five accounting ratios: cash flow to total capital, market to book ratio, debt to total capital, dividends to total capital and cash holdings to capital. We follow Lamont et al (2001) and Mensa and Ljungqvist (2016) and compute the KZ Index as per the equation below:

$$\text{KZ Index} = 1.001909\ X_1 + 0.2826389\ X_2 + 3.139193\ X_3 + 39.3678\ X_4 + 1.314759\ X_5 \qquad (9)$$

X_1 is the cash flow ratio; X_2 is the market to book ratio; X_3 is the leverage ratio; X_4 is the dividends ratio; X_5 is the cash holdings ratio. The higher the KZ Index, the more financially distressed the firm is (Mensa and Ljungqvist, 2016).

Due to data availability, we calculate the KZ Index for a total of 14,838 observations. We follow Lamont et al (2001) and Mensa and Ljungqvist (2016) and sort our sample into terciles based on the index scores of the previous year. Firms in the top (bottom) tercile are considered financially distressed (financially sound). We include, as control sample, only the observations that belong to the top tercile of the KZ Index (columns "KZ Index").

The second measure of financial distress we use is the Z-score, which is an accounting-based measure developed by Altman (1968). We follow Altman (1968) and compute the measure as per the equation below:

$$\text{Z-score} = 0.01\ 2X_1 + 0.014\ X_2 + 0.033\ X_3 + 0.006\ X_4 + 0.999\ X_5 \quad (10)$$

where: X_1 is the Working capital to total assets ratio; X_2 is the Retained earnings to total assets ratio; X_3 is the EBIT to total assets ratio; X_4 is the market value of equity to total debt; X_5 is the Sales to total assets.

A Z-score above 2.67 indicates that the firm is financially sound. A Z-score below 1.81 indicates that the firm is financially distressed and a Z-score between 2.67 and 1.81 represents the "grey area" (Habib et al, 2020). We compute the Z-score and end up with a total of 13,690 available observations. We follow Wang (2021) and sort our sample into terciles based on the normal distribution of the Z-scores in our sample. Firms in the top (bottom) tercile are considered financially sound (financial distressed). We include, as control sample, only the observations which belong to the bottom tercile of the Z-score (columns "Z-score").

Our third measure of financial distress is the WW Index, developed by Whited and Wu (2006). In addition to the variables used in the KZ Index and in the Z-Score, the WW Index

also includes the sales growth of the firm and industry. We follow Mensa and Ljungqvist (2016) and Hennessy and Whited (2007) and calculate the WW Index as per the equation below:

$$WW = -0.091\ X_1 - 0.062\ X_2 + 0.021\ X_3 - 0.044\ X_4 + 0.102\ X_5 - 0.035\ X_6 \quad (11)$$

X_1 is Income before extraordinary items plus depreciation to total assets; X_2 is a dummy variable that equals to one if total dividends are positive and zero otherwise; X_3 total debt to total assets; X_4 is the log of total assets; X_5 is the mean industry sales growth, estimated for each two-digit SIC code per year, where sales growth is defined as $Sales_{it}/Sales_{it-1} - 1$; X_6 is the sales growth.

Mensa and Ljungqvist (2016) define the firms in the top (bottom) tercile as financial distressed (financially sound). Accordingly, we use, as control sample, the observations that belong the bottom tercile of the WW Index (columns "WW Index").

The results of the analyses conducted on financially distressed firms are consistent with those obtained in the main analysis. The coefficient on *NGC* is positive and highly significant in the whole sample and in the sample where audit opinions are filed outside the EA window. The coefficient on *NGC* in the sample where audit opinions are filed within the EA window is insignificantly different from zero when using the KZ Index and the WW Index to defined financially distressed firms; it is positive and weakly significant when using the Z-Score. These findings indicate that information asymmetry increases after GC opinions and the effect is substantially driven by GC opinions filed outside the earnings announcement window. The results are again in line with the interpretation that the GC opinions convey useful information to market participants. We note that the number of observations varies across the different ways used to define financially distressed firms; the loss of observations is due to the lack of data to calculate the measures of financial distress.

5. Additional analyses

Regulation ASU 2014-15

Regulation ASU 2014-15, effective from 15 December 2016 introduced important changes in the regulatory framework around GC disclosures. First, prior to ASU 2014-15, auditors' GC disclosures were required by the U.S. Auditing Standards and Federal Securities law but there was no GC requirement in the US GAAP. In addition, there was no definition of "substantial doubt in GC" and no clear guidance about when there is substantial doubt about an entity's ability to continue as a going concern and whether, when, and how an entity discloses the relevant conditions and events in its footnotes. And importantly, prior to ASU 2014-15, there was no guidance in the US GAAP that officially required management to evaluate any potential GC uncertainties in unaudited quarterly filings. ASU 2014-15 significantly altered the regulatory framework around GC disclosures by providing a clear definition of "substantial doubt in GC" and explicitly mentioning what type of disclosures are required when a substantial doubt in GC has been identified. ASU 2014-15 required management to evaluate GC uncertainties at each annual and interim reporting period and provide the relevant disclosures in the notes.

Prior literature argues that ASU 2014-15 significantly affected the reporting environment relating to GC disclosures. Wang (2021) compares voluntary management GC disclosures in the pre-standard period and mandatory management GC disclosures in the post-standard periods and finds that the market reacts negatively to GC doubt only after ASU 2014-15. Accordingly, we examine the effect of the GC opinions on information asymmetries for the pre-standard and the post-standard subsamples. The results are reported in Table 8.

[Table 8]

The results we obtain both in the pre-standard and in the post-standard subsamples are consistent with those found in the main analysis. The coefficient on *NGC* is positively and highly significant in the whole sample when audit opinions are filed after the earnings announcement window. It is not significantly different from zero when audit opinions are filed

within the earnings announcement window. The differences in the coefficients on NGC between the pre and the post periods (both concurrently with the EAs and outside the EA window) are insignificantly different from zero. Overall, these results suggest that our previous findings are not affected by strength of the regulatory environment.

Alternative measures of information asymmetry

Next, we consider a set of alternative measures of information asymmetry. The calculation of these measures is described in Section 3 and in the Appendix.

First, we use two alternative measures of price impact. The results of these tests are reported in Table 9. Specifically, we use dollar-weighted percent price impact and the share volume-weighted percent price impact and the. Overall, the results using alternative measures of price impact are similar to our main findings.

[Table 9]

In addition, we use two alternative measures of information asymmetry based on the bid-ask spread. Specifically, we use the time-weighted quoted percent spread and the simple average percent effective spreads. The results are reported in Table 10. The results are again in line with those obtained in the main analysis. They indicate that the information asymmetries increase after CG opinions are released and the effect is mainly driven by the GC opinions which are filed outside the earnings announcement window.

[Table 10]

6. Conclusion

Prior literature extensively examines the market reaction to modified going concern (GC) opinions. The results of this branch of research are generally mixed although most of prior studies find that stock prices react negatively to modified GC opinions (e.g., DeFond and Zhang 2014). Recently, a paper by Myers et al. (2018) casts doubts on the validity of these results arguing that the results in prior literature are confounded by earnings announcements. Specifically, they note that the vast majority of GC opinions are issued concurrently with earnings announcements and find that, after controlling for the effect of earnings announcements, stock returns are not affected by modified GC opinions.

In this study, we examine the effect of the modified GC opinion announcements on information asymmetries. Our measure information asymmetries is the price impact of trades which is obtained using based on intraday data. We find that information asymmetries substantially increase after a GC opinion and that the increase is driven by GC opinions which are filed outside the earnings announcement window. The above results suggest that modified GC opinions do increase information asymmetries and consequently convey useful information to market participants. Notably, we also find that the increase in information asymmetries is strongly mitigated when the audit opinions are preceded by management disclosures about upcoming GC opinions which are required by ASU 2014-15. Our findings are robust to several sensitivity analyses. To alleviate the concern that our results may be affected by systematic differences between the GC firms and the control sample, we replicated our analysis by restricting the sample to distressed firms as well as by using a PSM approach. Despite the strong decrease in the number of observations used, the results we obtain with these sets of tests are similar to our main analysis. We also consider a number of alternative measures of information asymmetries and obtain similar results. Specifically, we use the volume-weighted price impact, the dollar value-weighted price impact, the quoted percent spread and the

effective spread. We also obtain similar results when we replicate the analysis in the period before and after ASU 2014-15, separately. Importantly, ASU 2014-15 introduces the requirements for managers to disclose GC uncertainties in the quarterly and annual reports.

We contribute to prior literature in two ways. First, to the best of our knowledge, prior literature has only examined the price reaction to going concern opinions. In contrast to prior literature, we concentrate on information asymmetry, which is a highly relevant aspect of market quality and it allows us to unravel new implications. Second, we contribute to the debate on whether GC opinions provide useful information to investors. This question is highly contentious in recent literature (Myers et al. 2018).

References

Altman, E.I., 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The journal of finance*, *23*(4), pp.589-609.

American Institute of Certified Public Accountants (AICPA). 1988. *The Auditor's Consideration of an Entity's Ability to Continue as a Going Concern*. Statement on Auditing Standards No. 59. New York, NY

Amin, K., Krishnan, J., & Yang, J. S. (2014). Going concern opinion and cost of equity. Auditing: A *Journal of Practice & Theory*, 33(4), 1–39.

Amiram, D., Owens, E. and Rozenbaum, O., 2016. Do information releases increase or decrease information asymmetry? New evidence from analyst forecast announcements. *Journal of Accounting and Economics*, 62(1), 121-138.

Bakarat, A., Chernobai, A., Wahrenburg, M. (2014). Information asymmetry around operational risk announcements. *Journal of Banking and Finance* 48, 152-179.

Bessembinder, H. (2003). Issues in assessing trade execution costs. *Journal of Financial Markets* 6, 233-257.

Bessembinder, H., Kaufman, K. (1997). A comparison of trade execution costs for NYSE and NASDAQ-listed stocks. *Journal of Financial and Quantitative Analysis* 32, 287–310.

Bhattacharya, N., Desai, H., Venkataraman, K. (2013). Does Earnings Quality Affect Information Asymmetry? Evidence from Trading Costs. *Contemporary Accounting Research* 30, 482-516.

Bochkay, K., R. Chychyla, S. Sankaraguruswamy, and M. Willenborg. 2018. Management disclosures of going concern uncertainties: The case of Initial Public Offerings. *The Accounting Review* 93 (6): 29-59.

Boehmer, E., Jones, C., Zhang, X. (2013). Shackling short sellers: The 2008 shorting ban. *Review of Financial Studies* 6, 1363-1400.

Blay, A. D., Geiger, M. A., & North, D. S. (2011). The auditor's going-concern opinion as a communication of risk. *Auditing: A Journal of Practice & Theory*, 30(2), 77–102.

Blay, A. D., & Geiger, M. A. (2013). Auditor fees and auditor independence: Evidence from going concern reporting decisions. *Contemporary Accounting Research*, 30(2), 579–606

Brooks, R.M., Patel, A. and Su, T., 2003. How the equity market responds to unanticipated events. *The Journal of Business*, *76*(1), pp.109-133.

Carcello, J. V., & Neal, T. L. (2003). Audit committee characteristics and auditor dismissals following Bnew^ going-concern reports. *The Accounting Review*, 78(1), 95–117.

Chae, J., 2005. Trading volume, information asymmetry, and timing information. *The Journal of Finance*, 60, pp.413-442.

Chen, P. F., He, S., Ma, Z., & Stice, D. (2016). The information role of audit opinions in debt contracting. *Journal of Accounting and Economics*, 61(1), 121–144.

Chen, K. C. W., & Church, B. K. (1996). Going concern opinions and the market's reaction to bankruptcy filings. *The Accounting Review*, 71(1), 117–128.

DeFond, M., Zhang, J. (2014). A review of archival auditing research. *Journal of Accounting and Economics* 58: 275-326.

Dodd, P., Dopuch, N., Holthausen, R., & Leftwich, R. (1984). Qualified audit opinions and stock-prices – Information content, announcement dates, and concurrent disclosures. *Journal of Accounting and Economics*, 6(1), 3–38.

Dopuch, N., Holthausen, R.W. and Leftwich, R.W., 1986. Abnormal stock returns associated with media disclosures of 'subject to' qualified audit opinions. *Journal of accounting and economics*, *8*(2), pp.93-117.

Elliott, J. A. (1982). “Subject to” audit opinions and abnormal security returns – Outcomes and ambiguities. *Journal of Accounting Research*, 20(2), 617–638.

Farre-Mensa, J. And Ljungqvist, A., 2016. Do measures of financial constraints measure financial constraints?. *The review of financial studies*, *29*(2), pp.271-308.

Financial Accounting Standards Board (FASB). 2014. Presentation of financial statements - going concern (Subtopic 205-40): Disclosure of uncertainties about an entity’s ability to continue as a going concern.

Fleak, S. K., & Wilson, E. R. (1994). The incremental information content of the going-concern audit opinion. *Journal of Accounting, Auditing & Finance*, 9(1), 149–166.

Foucault, T., Moinas, S., Theissen, E. (2007). Does Anonymity Matter in Electronic Limit Order Markets? Review of Financial Studies 20, 1707–1747.

Geiger, M. A., & Rama, D. V. (2006). Audit firm size and going-concern reporting accuracy. *Accounting Horizons*, 20(1), 1–17.

Generally Accepted Accounting Principles (US GAAP): Accounting Standards Update No. 2014-15 - Presentation of Financial Statements - Going Concern Subtopic 205-40: *Disclosure of Uncertainties about an Entity’s Ability to Continue as a Going Concern*.

Glosten, L., Milgrom, P. (1985). Bid, ask and transaction prices in a specialist market with heterogeneously informed traders. Journal of Financial Economics 14, 71-100.

Habib, A., Costa, M.D., Huang, H.J., Bhuiyan, M.B.U. and Sun, L., 2020. Determinants and consequences of financial distress: review of the empirical literature. *Accounting & Finance*, *60*, pp.1023-1075.

Hadlock, C.J. and Pierce, J.R., 2010. New evidence on measuring financial constraints: Moving beyond the KZ index. *The review of financial studies*, *23*(5), pp.1909-1940.

Hasbrouck, J. (1991). Measuring the Information Content of Stock Trades. *Journal of Finance* 46, 179-207.

Hendershott, T., Jones, C., Menkveld, A. (2011). Does Algorithmic Trading Improve Liquidity? *Journal of Finance* 66, 1-33.

Hennessy, C.A. and Whited, T.M., 2007. How costly is external financing? Evidence from a structural estimation. *The Journal of Finance*, 62(4), pp.1705-1745.

Holden, C., Jacobsen, S. (2014). Liquidity Measurement Problems in Fast, Competitive Markets: Expensive and Cheap Solutions. *Journal of Finance* 69, 1747-1785.

Holder-Webb, L. M., & Wilkins, M. S. (2000). The incremental information content of SAS No. 59 goingconcern opinions. *Journal of Accounting Research*, 38(1), 209–219.

Huang R.D., Stoll, H.R. (1996). Dealer versus auction markets. *Journal of Financial Economics* 41, 313–357.

Jones, F.L., 1996. The information content of the auditor's going concern evaluation. *Journal of Accounting and Public Policy*, 15(1), pp.1-27.

Kaplan, S.N. and Zingales, L., 1997. Do investment-cash flow sensitivities provide useful measures of financing constraints?. *The Quarterly Journal of Economics*, *112*(1), pp.169-215.

Kim, O., Verrecchia, R. (1994). Market liquidity and volume around earnings announcement. *Journal of Accounting and Economics* 17, 41-67.

Kaplan, S. E., & Williams, D. D. (2013). Do going concern audit reports protect auditors from litigation? A simultaneous equations approach. *The Accounting Review*, 88(1), 199–232.

Kyle, A. (1985). Continuous auctions and insider trading. *Econometrica* 53, 1315–1335.

Krinsky, I. and Lee, J., 1996. Earnings announcements and the components of the bid-ask spread. *The Journal of Finance*, 51(4), pp.1523-1535.

Lamont, O., Polk, C. and Saaá-Requejo, J., 2001. Financial constraints and stock returns. *The Review of Financial Studies*, *14*(2), pp.529-554.

Lee, C., Mucklow, B., and Ready, M., 1993. Spreads, depths and the impact of depths and the impact of earnings information: An intraday analysis, *Review of Financial Studies* 6(2), pp. 345-374.

Lennox, C. S., & Kausar, A. (2017). Estimation risk and auditor conservatism. *Review of Accounting Studies*, 22(1), 185–216.

Levi, S. and Zhang, X.J., 2014. Do temporary increases in information asymmetry affect the cost of equity?. *Management Science* 61, 354-371.

Loudder, M. L., Khurana, I. K., Sawyers, R. B., Cordery, C., Johnson, C., Lowe, J., & Wunderle, R. (1992). The information content of audit qualifications. *Auditing: A Journal of Practice & Theory*, 11(1), 69–82

Mayew, B. J., Sethuraman, M., & Venkatachalam, M. (2015). MD&A disclosure and the firm's ability to continue as a going concern. *The Accounting Review*, 90(4), 1621–1651.

Menon, K. and Williams, D.D., 2010. Investor reaction to going concern audit reports. *The Accounting Review*, *85*(6), pp.2075-2105.

Myers, L., Shipman, J., Swanquist, Q., Whited, R. (2018). Measuring the Market Response to Going Concern Modifications: The Importance of Disclosure Timing. *Review of Accounting Studies* 23, 1512-1543

Ponemon, L. A., & Raghunandan, K. (1994). What is “substantial doubt”? *Accounting Horizons*, 8(2), 44–54.

Public Company Accounting Oversight Board (PCAOB). AS 2415: Consideration of an entity’s ability to continue as a going concern.

PCAOB 2014 https://pcaobus.org/oversight/standards/economic-analysis/05152014_guidance.

PCAOB 2016 https://pcaobus.org/news-events/speeches/speech-detail/statement-on-reproposed-auditing-standard-on-the-auditor's-report_614

Stoumbos, R., 2022. The Growth of Information Asymmetry Between Earnings Announcements and Its Implications for Reporting Frequency. *Management Science*.

Venuti, E. K. 2004. The going-concern assumption revisited: Assessing a company’s future viability. *The CPA Journal* 74 (5): 40-43.

Wang, J., 2021. Management Going Concern Disclosure, Mitigation Plan, and Failure Prediction-Implications from ASU 2014-15. *The Accounting Review*.

Whited, T.M. and Wu, G., 2006. Financial constraints risk. *The review of financial studies*, 19(2), pp.531-559.

Willenborg, M., & McKeown, J. C. (2000). Going-concern initial public offerings. *Journal of Accounting and Economics*, 30(3), 279–313.

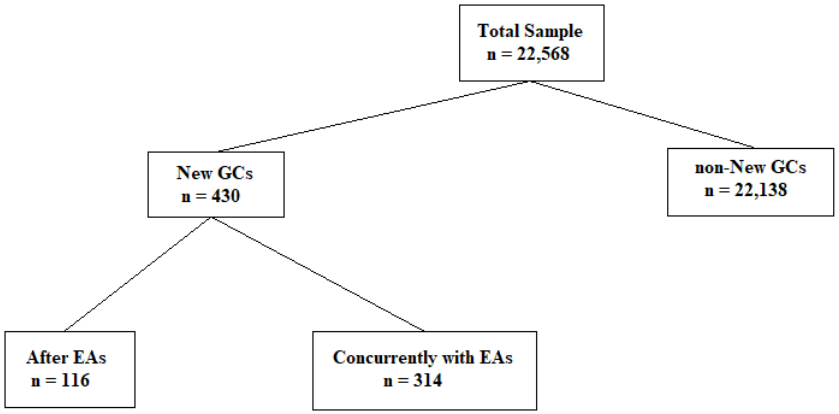
Table 1. Sample selection and composition

Panel A: Sample selection

Initial sample from Audit Analytics	32,005
Exclude firms with missing observations on stock returns and information asymmetry	(5,015)
Exclude firms with missing observations to compute control variables	(3,795)
Exclude GC firms that are non-new GCs (NGCs)	(201)
Exclude firms with missing EA dates and GC disclosures prior to the EA date	(13)
Exclude firms already in bankruptcy prior to the GC opinions file date	(413)
Final sample	22,568

Notes: Panel A presents our sample selection process.

Panel B: Sample composition



Notes: Panel B presents our sample composition and shows the new GC and the non-new GC firm-year observations within the total sample, based on the timing of the GC filings around the earnings announcement EA window (i.e., three-day window around the EA date).

Table 2. Summary statistics

Panel A: Descriptive statistics

	Mean	Median	Std. Dev.	p25	p75
NGC	0.019	0.000	0.137	0.000	0.000
ΔLNVLM	14.145	9.377	76.039	-31.561	55.313
ΔLNPRC	-0.019	0.167	5.833	-1.965	2.247
ΔLNVLT	1.235	0.513	77.649	-40.939	43.103
ΔPIMEAN	0.009	0.001	0.284	-0.033	0.042
ΔPIVALW	0.017	0.003	0.532	-0.068	0.085
ΔPIVOLW	0.017	0.003	0.532	-0.068	0.085
ΔESPREAD	-0.003	-0.001	0.261	0.022	0.018
ΔQSPREAD	-0.012	-0.001	0.353	-0.037	0.022
RETM	0.038	0.013	6.551	-2.396	2.449
RETEW	0.002	-0.017	6.506	-2.428	2.379
RETVW	0.019	-0.007	6.532	-2.40	2.404
LPIMEAN	0.196	0.094	0.294	0.043	0.215
LPIVALW	0.251	0.107	0.442	0.041	0.268
LPIVOLW	0.251	0.107	0.442	0.041	0.268
LQSPREAD	0.514	0.225	0.773	0.093	0.573
LESPREAD	0.364	0.136	0.587	0.058	0.381
SIZE	696.656	694.765	202.407	559.069	828.907
LEV	71.877	35.672	263.328	0.052	96.103
UE	-0.824	0.382	12.866	-2.016	2.469
BM	56.515	41.738	60.866	21.718	75.484
LIQ	315.925	200.954	361.374	129.665	340.117
FINL	24.009	20.099	23.082	1.109	38.703
NITA	-4.151	2.495	23.967	-4.137	6.551

Notes: Panel A presents descriptive statistics. All variables are multiplied by 100. All variables are defined in Appendix A and Appendix B.

Panel B: Cross-correlations

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) ΔPIMEAN									
(2) NGC	*0.023*								
(3) ΔLNVLM	*0.178*	*0.040*							
(4) ΔLNPRC	*-0.033*	*-0.090*	*0.065*						
(5) ΔLNVLT	*0.127*	0.004	0.005	*-0.049*					
(6) LPIMEAN	*-0.419*	*0.188*	*-0.022*	*-0.060*	*-0.052*				
(7) SIZE	*-0.039*	*-0.212*	*-0.089*	*0.064*	0.007	*-0.551*			
(8) LEV	0.001	*-0.028*	-0.017	*0.024*	0.002	*-0.061*	*0.080*		
(9) UE	0.000	*-0.080*	-0.007	*0.033*	0.000	*-0.105*	*0.094*	*0.027*	
(10) BM	-0.009	0.011	0.009	-0.012	-0.005	*0.163*	*-0.262*	*0.072*	0.001

Notes: Panel B presents the Pearson correlation matrix of the measures of information asymmetries, the indicator variable for the new GCs (*NGC*) and the control variables used in the main analysis. Significance at 10% level or lower are in italics.

Table 3. Stock returns around going concern opinions and earnings announcements

Panel A: Stock returns around the filing date of the going concern opinions

GCM Date Returns					
	N	*Raw returns*	*Market adjusted*	*Equally weighted*	*Value weighted*
GC concurrently with EAs	314	-0 .034***	-0. 038***	-0. 037***	-0. 038***
GC after EAs	116	-0. 011	-0. 014	-0. 014	-0.014
Difference		-0. 024*	-0. 024*	-0. 023*	-0. 024*

Notes: Panel A presents the mean cumulative abnormal returns around the GC opinion filing date (i.e., in the three-day window t-1 to t+1 where t is the date of GC opinion filing) for the subsamples of GC opinions filed within the earnings announcement (EA) window (i.e., within the three-day window t-1 to t+1 where t is the EA date) and after the EA window. *** p<0.01, ** p<0.05, * p<0.01

Panel B: Stock returns around the earnings announcement date

EA Date Returns					
	N	*Raw returns*	*Market adjusted*	*Equally weighted*	*Value weighted*
EAs concurrently with GCs	314	-0. 032***	-0.036***	-0. 035***	-0. 036***
EAs without GCs	116	-0. 030***	-0. 032***	-0. 032***	-0. 032***
Difference		-0. 002	-0. 004	-0. 003	-0.004

Notes: Panel B presents the mean cumulative abnormal returns around the earnings announcement (EA) date (i.e., in the three-day window t-1 to t+1 where t is the date of EA) for the subsamples of GC opinions filed within the EA window (i.e., within the three-day window t-1 to t+1 where t is the EA date) and after the EA window. *** p<0.01, ** p<0.05, * p<0.01

Table 4. Going concern opinions and information asymmetries

	(1)	(2)	(3)
	Full sample	After EA	Concurrently with EA
NGC	**0.001*** **	**0.002*** **	**0.000**
	(4.28)	**(3.97)**	**(1.47)**
ΔLNVLM	0.000***	0.000***	0.001***
	(15.71)	(8.31)	(9.80)
ΔLNPRC	-0.002***	0.000	-0.003***
	(-5.22)	(0.25)	(-5.14)
ΔLNVLT	0.000***	0.000***	0.000***
	(12.44)	(8.26)	(8.99)
SIZE	-0.001***	-0.000***	-0.001***
	(-33.43)	(-21.09)	(-26.16)
LPIMEAN	-0.603***	-0.574***	-0.655***
	(-36.74)	(-22.31)	(-29.68)
UE	-0.001***	-0.000	-0.000*
	(-2.69)	(-1.39)	(-1.89)
BM	-0.000	0.000	-0.000
	(-0.18)	(0.41)	(-0.92)
LEV	-0.000	-0.000	0.000
	(-0.49)	(-1.27)	(1.10)
Constant	0.004***	0.003***	0.006***
	(33.44)	(21.06)	(25.32)
Year FE	Yes	Yes	Yes
Observations	22,568	13,853	8,715
Adjusted R2	0.314	0.298	0.343

Notes: This table presents the results from the estimation of Equation (1). The dependent variable is the change in the simple average percent price impact from t-1 to t+1 where t is the audit opinion filing date (*ΔPIMEAN*, our main measure of information asymmetry). Column (1) employs the whole sample. We then examine the timing of the audit opinion filing relative to the earnings announcement (EA) window (i.e., the three-day window t-1 to t+1 where t is the date of the EA date). In column (2), we use only the observations for which the audit opinion filing date is after the earnings announcement window. In column (3) we use only the observations for which the audit opinion filing date is after the EA window. The difference in the coefficients on *NGC* between models (2) and (3) is significantly different from zero at the 0.05 level. Standard errors are clustered by firm. Robust t-statistics in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 5. Going concern opinions and information asymmetries: The moderating effect of management warnings

	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
	Full Sample *with warning*	Full Sample *without warning*	After EA *with warning*	After EA *without warning*	Concurrently with EA *with warning*	Concurrently with EA *without warning*
NGC	**0.001****	**0.001***	**0.002***	**0.003*****	**0.000**	**-0.000**
	(2.08)	**(1.76)**	**(1.71)**	**(2.61)**	**(0.35)**	**(-0.24)**
ΔLNVLM	0.000***	0.000***	0.000***	0.000***	0.001***	0.000***
	(15.70)	(15.42)	(8.08)	(8.21)	(9.78)	(9.30)
ΔLNPRC	-0.003***	-0.002***	-0.000	0.000	-0.003***	-0.003***
	(-5.91)	(-5.48)	(-0.19)	(0.33)	(-5.67)	(-5.41)
ΔLNVLT	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(12.06)	(12.85)	(8.16)	(8.31)	(8.50)	(9.43)
SIZE	-0.000***	-0.001***	-0.000***	-0.000***	-0.001***	-0.001***
	(-32.70)	(-33.08)	(-20.44)	(-20.78)	(-25.83)	(-25.98)
LPIMEAN	-0.595***	-0.599***	-0.565***	-0.571***	-0.649***	-0.654***
	(-35.09)	(-35.70)	(-21.54)	(-21.87)	(-28.32)	(-28.65)
UE	-0.000**	-0.000**	-0.000	-0.000	-0.000*	-0.000*
	(-2.49)	(-2.47)	(-1.06)	(-0.94)	(-1.86)	(-1.79)
BM	-0.000	-0.000	0.000	0.000	-0.000	-0.000
	(-0.26)	(-0.31)	(0.58)	(0.90)	(-1.15)	(-1.37)
LEV	-0.000	-0.000	-0.000	-0.000	0.000	0.000
	(-0.45)	(-0.51)	(-0.94)	(-1.20)	(0.91)	(1.04)
Constant	0.004***	0.004***	0.003***	0.003***	0.006***	0.006***
	(32.69)	(33.19)	(20.41)	(20.70)	(25.04)	(25.36)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	22,294	22,266	13,767	13,765	8,527	8,501
Adjusted R2	0.310	0.314	0.292	0.299	0.340	0.345

Notes: Table 5 presents the results from the estimation of Equation (1) for the subsamples with warning and without warning, where warning is an indication by management that an upcoming GC opinion is likely to appear in the upcoming 10-K filing. In the columns denoted "with warning", we exclude the observations in which *NGC* = 1 and there is no prior warning. In the columns denoted "without warning", we exclude the observations in which *NGC* = 1 and there is a previous warning. The dependent variable is the change in the simple average percent price impact from t-1 to t+1 where t is the audit opinion filing date (*ΔPIMEAN*, our main measure of information asymmetry). In the columns denoted "Full Sample", we employ the whole sample. We then examine the timing of the audit opinion filing relative to the earnings announcement (EA) window (i.e., the three-day window t-1 to t+1 where t is the date of the EA date). In the columns denoted "After EA", we use only the observations for which the audit opinion filing date is after the earnings announcement window. In the columns denoted "Concurrently with EA", we use only the observations for which the audit opinion filing date is within the EA window. Standard errors are clustered by firm. Robust t-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 6. Going concern opinions and information asymmetries: PSM approach

Panel A: First-stage model (Logit)

	(1) *Before PSM*	(2) *After PSM*
SIZE	**-0.853*** **	0.063
	(0.052)	(0.072)
LIQ	**-0.211*** **	-0.026
	(0.041)	(0.035)
FINL	**0.917*** **	0.004
	(0.228)	(0.251)
NITA	**-2.857*** **	-0.078
	(0.148)	(0.173)
AUD	**0.518*** **	-0.012
	(0.148)	(0.168)
Constant	-0.0754	-0.231
	(0.254)	(0.318)
Pseudo R2	0.431	0.001
Observations	19,796	762

Panel B: Difference in matching variables and t-tests after PSM

	NGC = 1 (a)	NGC = 0 (b)	Diff. (a)-(b)	*T*-test p-value
SIZE	4.059	3.976	0. 083	0.33
LIQ	2.424	2.565	-0. 141	0.43
FINL	0.267	0.258	0.009	0.70
NITA	-0.625	-0.617	- 0.008	0.81
AUD	0.507	0.499	0.008	0.83

Notes: Panel A presents the results of the logit regression where the dependent variable is the indicator variable *NGC* for the new GCs. Column (1) displays the results of the logit regression before the matching (PSM). Column (2) reports the results of the logit regression after PSM. Panel B reports the means of the matching variables after PSM, with 381 observations in each group. The last column reports the p-values from t-tests for two independent samples.

Panel C: Going concern opinions and information asymmetries

	(1) Full sample	(2) After EA	(3) Concurrently with EA
NGC	**0.001*** **	**0.002*** **	**0.001***
	(3.20)	**(2.72)**	**(1.66)**
ΔLNVLM	0.001***	0.001***	0.001***
	(5.90)	(2.89)	(5.09)
ΔLNPRC	-0.001	-0.000	-0.002
	(-0.68)	(-0.02)	(-0.93)
ΔLNVLT	0.001***	0.000	0.001***
	(2.59)	(0.50)	(2.67)
SIZE	-0.001***	-0.001***	-0.001***
	(-4.90)	(-4.38)	(-2.99)
LPIMEAN	-0.759***	-0.812***	-0.736***
	(-16.32)	(-9.78)	(-13.13)
UE	0.001	-0.001	0.001
	(0.79)	(-0.83)	(1.08)
BM	0.000	-0.000	0.000
	(0.46)	(-1.20)	(1.24)
LEV	-0.000	-0.000*	0.000
	(-0.65)	(-1.87)	(0.87)
Constant	0.006***	0.008***	0.005***
	(6.22)	(6.14)	(3.81)
Year FE	Yes	Yes	Yes
Observations	762	256	506
Adjusted R2	0.410	0.428	0.407

Notes: The dependent variable is the change in the simple average price impact from t-1 to t+1 where t is the audit opinion filing date (*ΔPIMEAN*, our main measure of information asymmetry). Column (1) employs the whole sample. We then examine the timing of the audit opinion filing relative to the earnings announcement (EA) window (i.e., the three-day window t-1 to t+1 where t is the date of the EA date). In column (2), we use only the observations for which the audit opinion filing date is after the earnings announcement window. In column (3) we use only the observations for which the audit opinion filing date is after the EA window. Standard errors are clustered by firm. Robust t-statistics in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 7. Going concern opinions and information asymmetries: Control sample based on financially distressed firms

	KZ Index top tercile			*Z-Score bottom tercile*			*WW Index top tercile*		
	(1a)	(1b)	(1c)	(2a)	(2b)	(2c)	(3a)	(3b)	(3c)
	Full sample	After EA	Concurrently with EA	Full sample	After EA	Concurrently with EA	Full sample	After EA	Concurrently with EA
NGC	**0.001*** **	**0.001*** **	**0.001**	**0.001*** **	**0.002*** **	**0.001***	**0.001** **	**0.001*** **	**0.000**
	(3.36)	**(2.86)**	**(1.64)**	**(3.93)**	**(3.33)**	**(1.89)**	**(2.15)**	**(2.71)**	**(0.54)**
ΔLNVLM	0.001***	0.000***	0.001***	0.001***	0.000***	0.001***	0.001***	0.000***	0.001***
	(8.70)	(3.71)	(6.96)	(7.76)	(3.86)	(5.87)	(12.02)	(5.96)	(8.69)
ΔLNPRC	-0.002***	-0.001	-0.003***	-0.002**	-0.002	-0.002*	-0.002***	0.001	-0.003***
	(-2.99)	(-0.40)	(-3.15)	(-2.04)	(-1.03)	(-1.67)	(-3.38)	(0.99)	(-3.69)
ΔLNVLT	0.000***	0.000***	0.000***	0.000***	0.000**	0.000***	0.000***	0.000***	0.001***
	(4.28)	(3.30)	(2.81)	(4.02)	(2.43)	(3.07)	(7.83)	(4.56)	(6.25)
SIZE	-0.001***	-0.000***	-0.001***	-0.001***	-0.000***	-0.001***	-0.001***	-0.001***	-0.001***
	(-16.96)	(-10.44)	(-13.22)	(-16.82)	(-9.02)	(-13.74)	(-23.72)	(-15.22)	(-18.86)
LPIMEAN	-0.626***	-0.572***	-0.664***	-0.660***	-0.583***	-0.711***	-0.659***	-0.607***	-0.702***
	(-18.88)	(-9.56)	(-16.03)	(-18.97)	(-8.39)	(-17.13)	(-29.74)	(-16.02)	(-24.45)
UE	0.000	-0.001*	0.001	-0.001*	-0.000	-0.001*	-0.000	-0.001	-0.000
	(0.26)	(-1.71)	(1.11)	(-1.92)	(-0.79)	(-1.77)	(-0.92)	(-1.27)	(-0.22)
BM	0.000	0.000	0.000	-0.000	-0.000	-0.000	0.000	-0.000	0.000
	(0.69)	(0.29)	(0.75)	(-1.34)	(-0.54)	(-1.09)	(0.26)	(-0.13)	(0.04)
LEV	0.000	0.000	0.000	0.000	-0.000	0.000	0.000	-0.000	0.000**
	(0.68)	(0.06)	(1.19)	(0.07)	(-0.66)	(1.23)	(1.46)	(-0.19)	(2.49)
Constant	0.004***	0.004***	0.005***	0.005***	0.004***	0.007***	0.006***	0.005***	0.007***
	(5.61)	(2.91)	(5.24)	(16.85)	(8.98)	(13.42)	(23.76)	(14.70)	(17.98)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,214	2,803	2,411	4,820	2,545	2,275	7,017	3,701	3,316
Adjusted R2	0.315	0.262	0.349	0.338	0.267	0.380	0.342	0.299	0.372

Notes: This table presents the results from the estimation of Equation (1) in a sample that only consists of firms in financial distress. We define financially distressed firms as those in the top tercile of the KZ index (Kaplan and Zingales 1997), those in the bottom tercile of the Z-score (Altman 1968), or in the top tercile of the WW index (Whited and Wu 2006). Please see section 3 ("GC opinions and information asymmetries: sample of firms in financial distress") for the definition of the subsamples based on financially distressed firms. The dependent variable is the change in the simple average percent price impact from t-1 to t+1 where t is the audit opinion filing date (*ΔPIMEAN*, our main measure of information asymmetry). In the columns denoted "Full Sample", we employ the whole sample. We then examine the timing of the audit opinion filing relative to the earnings announcement (EA) window (i.e., the three-day window t-1 to t+1 where t is the date of the EA date). In the columns denoted "After EA", we use only the observations for which the audit opinion filing date is after the EA window. In the columns denoted "Concurrently with EA", we use only the observations for which the audit opinion filing date is within the EA window. Standard errors are clustered by firm. Robust t-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 8. Going concern opinions and information asymmetries: The effect of regulation ASU2014-15

	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
	Full Sample *pre ASU14-15*	Full Sample *post ASU14-15*	After EA *pre ASU14-15*	After EA *post ASU14-15*	Concurrently with EA *pre ASU14-15*	Concurrently with EA *post ASU14-15*
NGC	**0.001*** **	**0.001** **	**0.002*** **	**0.002** **	**0.000**	**0.000**
	(3.601)	**(2.319)**	**(3.470)**	**(2.110)**	**(1.184)**	**(0.990)**
ΔLNVLM	0.000***	0.001***	0.000***	0.000***	0.000***	0.001***
	(12.908)	(8.995)	(7.769)	(3.675)	(6.883)	(6.811)
ΔLNPRC	-0.002***	-0.003***	0.000	0.000	-0.002***	-0.003***
	(-3.846)	(-3.830)	(0.087)	(0.207)	(-3.321)	(-4.224)
ΔLNVLT	0.000***	0.000***	0.000***	0.000***	0.001***	0.000***
	(11.848)	(5.261)	(7.358)	(3.687)	(9.050)	(3.802)
SIZE	-0.001***	-0.000***	-0.000***	-0.000***	-0.001***	-0.001***
	(-29.124)	(-19.316)	(-18.911)	(-11.007)	(-21.604)	(-14.984)
LPIMEAN	-0.639***	-0.529***	-0.596***	-0.515***	-0.713***	-0.555***
	(-33.832)	(-17.778)	(-21.054)	(-9.636)	(-26.950)	(-15.173)
UE	-0.001***	-0.000	-0.001*	0.000	-0.001*	-0.000
	(-2.689)	(-0.693)	(-1.678)	(0.399)	(-1.769)	(-0.662)
BM	0.000	-0.000*	0.000	-0.000	0.000	-0.000**
	(0.940)	(-1.743)	(0.714)	(-0.208)	(0.143)	(-2.039)
LEV	-0.000	-0.000	-0.000	-0.000	0.000	0.000
	(-0.564)	(-0.192)	(-1.476)	(-0.144)	(0.835)	(0.442)
Constant	0.005***	0.005***	0.003***	0.003***	0.007***	0.005***
	(29.395)	(17.180)	(18.988)	(10.154)	(21.415)	(12.298)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	15,862	6,706	10,241	3,612	5,621	3,094
Adjusted R2	0.329	0.285	0.305	0.279	0.370	0.297

Notes: This table presents the results from the estimation of Equation (1) for the subsamples pre and post regulation ASU2014-15. The dependent variable is the change in the simple average percent price impact from t-1 to t+1 where t is the audit opinion filing date (*ΔPIMEAN*, our main measure of information asymmetry). In the columns denoted "Full Sample", we employ the whole sample. We then examine the timing of the audit opinion filing relative to the earnings announcement (EA) window (i.e., the three-day window t-1 to t+1 where t is the date of the EA date). In the columns denoted "After EA", we use only the observations for which the audit opinion filing date is after the EA window. In the columns denoted "Concurrently with EA", we use only the observations for which the audit opinion filing date is within the EA window. Standard errors are clustered by firm. Robust t-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 9. Going concern opinions and information asymmetries: Alternative measures of price impact

	Dollar value-weighted percent price impact			Share-weighted percent price impact		
	(1a)	(1b)	(1c)	(2a)	(2b)	(2c)
	Full sample	After EA	Concurrently with EA	Full sample	After EA	Concurrently with EA
NGC	**0.002*** **	**0.004*** **	**0.001**	**0.002*** **	**0.004*** **	**0.001**
	(4.29)	**(4.48)**	**(1.42)**	**(4.22)**	**(4.50)**	**(1.32)**
ΔLNVLM	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(8.66)	(4.24)	(5.56)	(8.56)	(4.23)	(5.49)
ΔLNPRC	-0.004***	0.000	-0.005***	-0.003***	0.001	-0.004***
	(-5.38)	(0.25)	(-5.54)	(-4.79)	(0.41)	(-4.97)
ΔLNVLT	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(6.46)	(3.14)	(5.56)	(6.24)	(3.15)	(5.27)
SIZE	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(-32.97)	(-23.92)	(-23.56)	(-33.06)	(-23.97)	(-23.60)
LPIVALW	-0.773***	-0.779***	-0.790***			
	(-44.70)	(-32.17)	(-32.74)			
LPIVOLW				-0.775***	-0.781***	-0.792***
				(-45.01)	(-32.18)	(-33.03)
UE	-0.001***	-0.001*	-0.001*	-0.001***	-0.001*	-0.001*
	(-2.72)	(-1.83)	(-1.78)	(-2.67)	(-1.81)	(-1.73)
BM	0.000	-0.000	-0.000	0.000	-0.000	-0.000
	(0.17)	(-0.18)	(-0.07)	(0.16)	(-0.17)	(-0.09)
LEV	-0.000	-0.000	0.000	-0.000	-0.000	0.000
	(-0.23)	(-0.69)	(0.74)	(-0.11)	(-0.64)	(0.86)
Constant	0.008***	0.006***	0.010***	0.008***	0.006***	0.010***
	(32.49)	(23.90)	(22.35)	(32.62)	(23.97)	(22.47)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	22,568	13,853	8,715	22,568	13,853	8,715
Adjusted R2	0.337	0.344	0.343	0.338	0.345	0.345

Notes: This table presents the results from the estimation of Equation (1) with alternative measures of price impact. In columns (1a), (1b) and (1c) the dependent variable is the change in the dollar value-weighted percent price impact from t-1 to t+1 where t is the audit opinion filing date (*ΔPIVALW*). In columns (2a), (2b) and (2c) the dependent variable is the change in the share-weighted percent price impact from t-1 to t+1 where t is the GC opinion filing date *ΔPIVOLW* (measure of information asymmetry. In the columns denoted "Full sample", we employ the whole sample. We then examine the timing of the audit opinion filing relative to the earnings announcement (EA) window (i.e., the three-day window t-1 to t+1 where t is the date of the EA date). In the columns denoted "After EA", we use only the observations for which the audit opinion filing date is after the EA window. In the columns denoted "Concurrently with EA", we use only the observations for which the audit opinion filing date is within the EA window. Standard errors are clustered by firm. Robust t-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 10. Going concern opinions and information asymmetries: Bid-ask spreads

	Time-weighted quoted percent spread			*Simple average percent effective percent spreads*		
	(1a)	(1b)	(1c)	(2a)	(2b)	(2c)
	Full sample	After EA	Concurrently with EA	Full sample	After EA	Concurrently with EA
NGC	**0.001***	**0.002*****	**0.000**	**0.001*****	**0.001****	**0.000**
	(1.94)	**(2.94)**	**(0.09)**	**(2.73)**	**(2.01)**	**(1.52)**
ΔLNVLM	-0.000***	-0.000***	-0.001***	-0.000***	-0.000**	-0.000***
	(-8.72)	(-3.74)	(-8.14)	(-5.29)	(-2.40)	(-6.00)
ΔLNPRC	-0.001**	-0.002**	-0.000	-0.002***	-0.002***	-0.002***
	(-2.09)	(-2.19)	(-0.70)	(-6.65)	(-2.62)	(-5.19)
ΔLNVLT	0.002***	0.001***	0.002***	0.001***	0.001***	0.002***
	(36.49)	(23.72)	(28.85)	(37.42)	(24.61)	(29.79)
SIZE	-0.000***	-0.000***	-0.001***	-0.000***	-0.000***	-0.001***
	(-18.03)	(-11.72)	(-14.58)	(-19.34)	(-9.80)	(-17.82)
LQSPREAD	-0.182***	-0.166***	-0.200***			
	(-16.80)	(-10.35)	(-13.40)			
LESPREAD				-0.165***	-0.138***	-0.199***
				(-15.89)	(-7.93)	(-14.85)
UE	-0.000	-0.000	-0.000	0.000	0.000	-0.000
	(-0.16)	(-0.01)	(-0.27)	(0.10)	(0.49)	(-0.07)
BM	0.000**	0.000***	0.000	0.000*	0.000***	0.000
	(2.20)	(3.16)	(0.33)	(1.86)	(2.72)	(0.35)
LEV	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-1.43)	(-1.04)	(-0.43)	(-1.03)	(-0.42)	(-0.63)
Constant	0.003***	0.002***	0.005***	0.002***	0.001***	0.004***
	(16.89)	(10.46)	(13.86)	(18.46)	(8.82)	(17.41)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	22,568	13,853	8,715	22,568	13,853	8,715
Adjusted R2	0.267	0.230	0.308	0.269	0.227	0.322

Notes: This table presents the results from the estimation of Equation (1) using the bid-ask spread as measure of information asymmetry. In columns (1a), (1b) and (1c) the dependent variable is *ΔQSPREAD;* the change in the time-weighted quoted percent spread from t-1 to t+1 where t is the audit opinion filing date (alternative measure of information asymmetry). In columns (2a), (2b) and (2c) the dependent variable is *ΔESPREAD*; the change in the simple average percent effective spreads from t-1 to t+1 where t is the audit opinion filing date (alternative measure of information asymmetry). In the columns denoted "Full sample", we employ the whole sample. We then examine the timing of the audit opinion filing relative to the earnings announcement (EA) window (i.e., the three-day window t-1 to t+1 where t is the date of the EA date). In the columns denoted "After EA", we use only the observations for which the audit opinion filing date is after the EA window. In the columns denoted "Concurrently with EA", we use only the observations for which the audit opinion filing date is within the EA window. Standard errors are clustered by firm. Robust t-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

APPENDIX A
Variable definitions

Variable	*Variable definition*
NGC	Indicator variable for a new modified going concern (GC) opinion. It is equals one if the firm is assigned a new GC opinion and zero otherwise. We focus on *new* GC opinions; therefore, the variable is equal to zero if the firm was assigned a GC opinion in the prior year.
ΔLNVLM	Change in the natural logarithm of trading volume between day (t+1) and day (t-1), where day (t) is the filing date of the audit opinion.
ΔLNPRC	Change in the natural logarithm of trading price between day (t+1) and day (t-1), where day (t) is the filing date of the audit opinion.
ΔLNVLT	Change in the natural logarithm of the standard deviation of trade price between day (t+1) and day (t-1), where day (t) is the filing date of the audit opinion.
SIZE	Natural logarithm of market value of equity.
LPIMEAN	Simple average price impact on day (t-1), where day (t) is the filing date of the audit opinion. See Section 3 ("Measuring information asymmetry") and Appendix B for a detailed description.
LPIVALW	Dollar value-weighted percent price impact on day (t-1), where day (t) is the filing date of the audit opinion. See Section 3 ("Measuring information asymmetry") and Appendix B for a detailed description.
LPIVOLW	Share-weighted percent price impact on day (t-1), where day (t) is the filing date of the audit opinion. See Section 3 ("Measuring information asymmetry") and Appendix B for a detailed description.
LQSPREAD	Time-weighted quoted percent spread on day (t-1), where day (t) is the filing date of the audit opinion. See Section 3 ("Measuring information asymmetry") for a detailed description.
LESPREAD	Simple average effective percent spreads on day (t-1), where day (t) is the filing date of the audit opinion. See Section 3 ("Measuring information asymmetry") for a detailed description.
UE	Unexpected earnings, defined as the change in earnings between the current and the previous year scaled by total assets at the end of the previous year.
BM	Natural logarithm of the book-to-market ratio.
LEV	Natural logarithm of leverage.
LIQ	Ratio of total current assets to total current liabilities.

FINL	Ratio of total debt to total assets.
NITA	Ratio of net income to total assets.
AUD	Auditor characteristic indicator variable, which equals 1 if the auditor is a Big4 auditor and zero otherwise.
ΔPIMEAN	Change in the simple average percent price impact of trades between day (t+1) and day (t-1), where day (t) is the filing date of the audit opinion. See Section 3 ("Measuring information asymmetry") and Appendix B for a detailed description.
ΔPIVALW	Change in the dollar value-weighted percent price impact of trades between day (t+1) and day (t-1), where day (t) is the filing date of the audit opinion. See Section 3 ("Measuring information asymmetry") and Appendix B for a detailed description.
ΔPIVOLW	Change in the share-weighted percent price impact of trades between day (t+1) and day (t-1), where day (t) is the filing date of the audit opinion. See Section 3 ("Measuring information asymmetry") and Appendix B for a detailed description.
ΔQSPREAD	Change in the time-weighted quoted percent spread between day (t+1) and day (t-1), where day (t) is the filing date of the audit opinion. See Section 3 ("Measuring information asymmetry") for a detailed description.
ΔESPREAD	Change in the simple average percent effective spread between day (t+1) and day (t-1), where day (t) is the filing date of the audit opinion. See Section 3 ("Measuring information asymmetry") for a detailed description.
RETM	Market cumulative abnormal return, the company's daily return minus the corresponding size-decile portfolio's daily return) in the three-day window from (t-1) to (t+1) where day (t) is the filing date of the audit opinion.
RETEW	Equity-weighted cumulative abnormal return, defined as the company's daily return minus the corresponding size-decile portfolio's daily return in the three-day window from (t-1) to (t+1) where day (t) is the filing date of the audit opinion.
RETVW	Value-weighted cumulative abnormal return, defined as the company's daily return minus the corresponding size-decile portfolio's daily return in the three-day window from (t-1) to (t+1) where day (t) is the filing date of the audit opinion.

APPENDIX B
Measures of Price Impact of Trades

Simple average percent price impact

$$Percent\ price\ impact_k = 2 * D_k * (M_{k+5} - M_k)/M_k$$

Where M_k is the midquote before the *k*th trade and M_{k+5} is the midquote bid-ask 5 minutes after the *k*th trade; D_k is an indicator variable for the sign of the trade (+1 for buys; - 1 for sells; the sign of the trade is defined based on the Lee and Ready (1991) algorithm if the trade is inside the prevailing NBBO, otherwise the tick test is used.

$$Simple\ average\ percent\ price\ impact\ (PIMEAN)_T = \frac{1}{N}\sum_{k=1}^{N} Percent\ price\ impact_k$$

Where *N* is the total number of trades on day *T*.

Dollar value weighted percent price impact

$$Value\ weighted\ percent\ price\ impact\ (PIVALW)_T = \frac{1}{N}\sum_{k=1}^{N} w_k * Percent\ price\ impact_k$$

Where *N* is the total number of trades on day *T* and $w_k = \frac{P_k * SHR_k}{\sum_{i=1}^{N} P_k * SHR_k}$; P_k is the price of the *k*th trade; SHR_k is the size (number of shares) of the *k*th trade.

Share weighted percent price impact

$$Share\ weighted\ percent\ price\ impact\ (PIVOLW)_T = \frac{1}{N}\sum_{k=1}^{N} s_k * Percent\ price\ impact_k$$

Where *N* is the total number of trades on day *T*; $s_k = \frac{SHR_k}{\sum_{i=1}^{N} SHR_k}$; SHR_k is the size (number of shares) of the *k*th trade.

APPENDIX C

Going concern opinions and stock returns

	(1a)	(1b)	(1c)	(2a)	(2b)	(2c)	(3a)	(3b)	(3c)
	Full sample	After EA	Concurrently with EA	Full sample	After EA	Concurrently with EA	Full sample	After EA	Concurrently with EA
NGC	**-0.030*** **	**-0.016**	**-0.033*** **	**-0.030*** **	**-0.016**	**-0.032*** **	**-0.030*** **	**-0.016**	**-0.033*** **
	(-5.27)	**(-1.55)**	**(-4.75)**	**(-5.23)**	**(-1.55)**	**(-4.72)**	**(-5.28)**	**(-1.56)**	**(-4.77)**
ΔLNVLM	0.007***	0.005***	0.010***	0.007***	0.005***	0.010***	0.007***	0.005***	0.010***
	(8.63)	(5.57)	(7.64)	(8.59)	(5.41)	(7.69)	(8.62)	(5.52)	(7.66)
ΔLNVLT	-0.003***	-0.001**	-0.004***	-0.003***	-0.002**	-0.004***	-0.003***	-0.001**	-0.004***
	(-4.02)	(-2.25)	(-3.49)	(-4.00)	(-2.43)	(-3.38)	(-4.00)	(-2.26)	(-3.46)
SIZE	0.001***	0.000	0.002***	0.001***	0.000	0.002***	0.001***	0.000	0.002***
	(3.85)	(0.16)	(3.80)	(3.84)	(0.26)	(3.75)	(3.87)	(0.20)	(3.80)
UE	0.012**	0.003	0.017***	0.012**	0.002	0.017***	0.012**	0.003	0.017***
	(2.56)	(0.41)	(2.60)	(2.54)	(0.34)	(2.63)	(2.57)	(0.40)	(2.63)
BM	0.000	0.001	-0.000	0.000	0.001	-0.000	0.000	0.001	-0.000
	(0.27)	(0.62)	(-0.12)	(0.25)	(0.67)	(-0.16)	(0.25)	(0.64)	(-0.15)
LEV	0.000	-0.000	0.001*	0.000	-0.000	0.001*	0.000	-0.000	0.001*
	(1.40)	(-0.10)	(1.73)	(1.37)	(-0.15)	(1.72)	(1.42)	(-0.09)	(1.74)
Constant	-0.008***	-0.000	-0.021***	-0.007***	0.001	-0.019***	-0.008***	0.000	-0.020***
	(-3.71)	(-0.06)	(-4.39)	(-3.09)	(0.46)	(-4.05)	(-3.58)	(0.04)	(-4.30)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	22,568	13,853	8,715	22,568	13,853	8,715	22,568	13,853	8,715
R squared	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02
Adjusted R2	0.015	0.011	0.022	0.014	0.008	0.022	0.014	0.010	0.022

Notes: This table shows the results from a regression relating cumulative abnormal returns, around the filing date of the audit opinion, to an indicator variable for new GC opinions (*NGC*). The dependent variable is represented by CAR from t-1 to t, where t is the date of the filing date of the audit opinion. Specifically, in columns (1a), (1b) and (1c), the dependent variable is *RETM* (market adjusted cumulative abnormal return); in columns (2a), (2b) and (2c), the dependent variable is *RETEW* (equally weighted cumulative abnormal return) in columns (3a), (3b) and (3c), the dependent variable is *RETVM* (value weighted cumulative abnormal return. In the columns denoted "Full sample", we employ the whole sample. We then examine the timing of the audit opinion filing relative to the Earnings Announcement (EA) window (i.e., the three-day window t-1 to t+1 where t is the date of the EA date). In the columns denoted "After EA", we use only the observations for which the audit opinion filing date is after the EA window. In the columns denoted "Concurrently with EA", we use only the observations for which the audit opinion filing date is within the EA window. Standard errors are clustered by firm. Robust t-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.