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**Article**

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# Auditing standards reform in 2016 and going-concern audits

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## ABSTRACT

This paper examines the issuance and accuracy of going-concern audit opinions after China's auditing standards reform in 2016. We find that auditors are more likely to issue a going-concern opinion after the reform and Type II errors (retaining the false) decrease while Type I errors (discarding the true) increase. Further analyses show that the results are related to the change in GCO disclosure location in audit reports resulting from the reform. The new auditing standards strengthen the auditor's responsibility for going-concern audits and adjust the alternatives of GCO disclosure location in audit reports. In this context, auditors are increasingly willing to communicate less severe going-concern issues in the audit report. Overall, auditors are issuing more going-concern opinions after the auditing standards reform in 2016 and the change in location alternatives affects the accuracy of going-concern opinions.

## KEYWORDS

Going-concern opinion; key audit matters; type I error; type II error

## 1. Introduction

Whether an auditor issues a going-concern opinion (GCO, hereafter) and whether it is issued for an insolvent company has been regarded as one of the important audit quality indicators (DeFond & Zhang, 2014; Knechel et al., 2015). However, GCO in China is a sparsely investigated topic because of the existence of modified audit opinion (MAO, hereafter) in China. Contrary to the few inquiries in academics, China's regulators have been paying attention to going-concern audits and have made several revisions to the relevant auditing standards in order to increase the auditor's responsibility for going-concern audits. The 2016 auditing standard reform is quite different from the previous, requiring for the first time that the responsibility of the auditor for going-concern audits is written into the audit report. It also adjusts and highlights the disclosure location of GCO in the audit report, which is equal or second in prominence to the paragraph of MAOs. In addition to these disclosure requirements, the new auditing standards substantively enhance the auditor's judgement requirements during going-concern audits and communication requirements with governance, regulators, and law enforcement institutions about going-concern audits. The relationship between the 2016 auditing standard reform and auditor's going-concern audit is the research question of this paper.

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Auditor's going-concern audit behaviour is affected by the cost of both Type I and Type II errors (Maso et al., 2020; Raghunandan & Rama, 1995). On one hand, the new 2016 auditing standards increase the cost of GCO Type II errors, such as the cost of reputation loss or regulation risk when the auditor did not issue a GCO but the client failed later. On the other hand, the new standards reduce the cost of GCO Type I errors, such as the cost of losing a client when the auditor issued a GCO but the client did not fail later. Thus, the new 2016 auditing standards change auditors' going-concern audit behaviour.

Using a sample of financially distressed firms over the period 2011 to 2020, this paper examines the issuance and accuracy of GCOs around the 2016 auditing standards reform. The results find that auditors are more likely to issue GCOs after the reform, and GCO Type II errors (retaining the false) decline while Type I errors (discarding the true) rise. Further analyses show that the above results are related to the change in GCO disclosure locations after the auditing standards reform. Besides the paragraph '*Basis for forming a qualified (adverse, disclaimer of) opinion*', two new location alternatives are allowed in the new standards: the paragraph '*Material uncertainties relating to going-concern*' and the paragraph '*Key audit matters*'. The new paragraphs are positioned above and prominent enough in audit report to attract the attention of investors and regulators, avoiding litigation or regulation risk. Meanwhile, they are not MAOs in nature and thus would not overly offend clients. In this context, auditors are increasingly willing to communicate less severe going-concern issues in audit reports. The paper does the following robustness tests: extending the examination period for business failures, placebo testing to disrupt the timing of the reform, placebo testing to examine modified audit opinions unrelated to going-concern issues, testing the relationship between GCO and audit firm switches after the reform, and considering the possible impact of other macroeconomic factors on business failures for all firms. The results of the paper hold over these robustness tests. Overall, auditors issue more GCOs after the auditing standards reform in 2016, and the increased GCO disclosure alternatives affect the accuracy of GCOs.

The main contributions of this paper are as follows. First, it distinguishes between GCOs and other audit quality indexes in China like MAOs and earnings quality indicators. Since DeFond et al. (2000) studied modified audit opinions in Chinese audit reports, MAOs have been almost the 'standard research topic' in the studies on audit quality in China, and most of the studies are based on a strong assumption that the more MAOs, the better the audit quality. However, MAOs comprise modified audit opinions both related and unrelated to going-concern issues. Existing studies fail to differentiate GCOs from MAOs and do not consider the accuracy of audit opinions.<sup>1</sup> While the issuance of audit opinions reflects the auditor's independence, the accuracy more reflects the auditor's competence, both of which are important for audit quality (DeAngelo, 1981). GCOs are also different from indicators representing the client's earnings quality (such as discretionary accruals, earnings response coefficients, the restatement of financial statements, etc.) in that GCOs are a more direct proxy for audit quality than earnings quality because the audit report is solely the responsibility of auditors and directly under their influence and control, whereas earnings quality rests primarily with the client management (DeFond & Zhang, 2014; DeFond et al.,

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<sup>1</sup>We thank Professor Donghui Wu of the Chinese University of Hong Kong for suggesting adding this research significance at our departmental workshop on July 13, 2021. The analysis of AH companies, modified audit opinions due to non-GCOs, and audit firm switches after GCOs in the latter part of the paper also benefited from Professor Wu's comments. Of course, this paper is written under our own responsibility.

2018; Kallunki et al., 2019). Our analyses of GCO issuance and accuracy in this paper contribute to a multidimensional understanding of audit quality in China.

Second, this paper extends the literature on the impact of auditing standards reform on going-concern audits. Existing studies suggest that auditors are more likely to issue GCOs after new auditing standards (Carcello et al., 1995; Cameron & Trivedi, 2009; Citron & Taffler, 2004; Li & Wu, 2002); and that GCO Type II errors decline (Raghunandan & Rama, 1995).<sup>2</sup> The decline in GCO Type II errors is considered to be an indication of improved audit quality, but these studies do not consider changes in Type I errors. If Type II error decreases but Type I error increases, it means that the auditor has become more cautious rather than that the quality of the audit has been improved. Stuber and Hogan (2021) suggest that auditors are more inclined to manage risk rather than improve audit quality when faced with higher risk. For example, DeFond et al. (2018) found that auditors behave more cautiously when perceiving a greater SEC enforcement risk, as evidenced by more issued GCOs but a higher Type I error rate.<sup>3</sup> The 2016 auditing standards reform has strengthened the requirements for auditor's judgement and communication during going-concern audits and highlighted GCO disclosure locations, significantly increasing auditor's risk on going-concern audits. This paper complements the literature by examining GCO issuance and both Type I and Type II errors around the 2016 auditing standards reform.

Third, the paper enriches the literature on disclosure locations of accounting and auditing information. Existing studies have examined the economic consequences of location changes of accounting information, and they find that location change of 'other comprehensive income' and 'investment income' in the income statement significantly affects investors' attention and decisions (Hirst & Hopkins, 1998; Lee et al., 2006; Luo et al., 2018). In China, Li and Wu (2002) summarised the disclosure locations of GCOs in the audit report of listed companies between 1997 and 2000 and suggested that auditors may abuse the alternative locations provided by auditing standards to compromise with their clients. The 2016 auditing standards reform makes the GCO locations in China different from those in other countries and increases the auditor's alternative GCO disclosure options to attract users' attention and avoid their liability and regulation risk without losing clients. The better cost-benefit balance under the new auditing standards motivates auditors to issue more GCOs. Using data from China, this paper analyzes for the first time the impact of location changes of GCOs on auditor's going-concern audit behaviour.

Finally, this paper adds to the literature related to the effects of auditing standards reform in China. The existing literature has studied the 2003, 2006, and 2016 auditing standard reforms in China. For the 2003 reform that eliminated the requirements for auditors to express opinions about 'consistency' in accounting policies, Wang and Tu (2006) found that this reform provided opportunities for audit opinion shopping and reduced the sensitivity of audit opinions to changes in accounting policies. For the 2006 reform that fully adopted risk-based auditing, Lu et al. (2012) found that auditors paid more attention to audit risk and become more cautious in their practice after the reform, thus alleviating the impact of economic dependence on auditor independence. Li et al. (2015) confirmed that the probability of small accounting firms issuing

<sup>2</sup>The existing U.S. literature focuses on Statements on Auditing Standards (SAS) No. 34 and No. 59 (*The Auditor's Consideration of an Entity's Ability to Continue as a Going Concern*) issued by AICPA in 1981 and 1988, respectively. S. Li and Wu (2002) analyse China Standards of Independent Auditing (CSA) No. 17 (*Going-concern*).

<sup>3</sup>M. L. DeFond et al. (2018) measured auditor's awareness of SEC enforcement using (i) audit office proximity to SEC regional offices, and (ii) proximity to specific SEC enforcement actions against auditors.

MAOs significantly increased. As for the 2016 reform, researchers focused on key audit matters (Wang et al., 2018; Yan et al., 2018; Yang et al., 2018; Zeng et al., 2021), leaving going-concern audits unexamined. This paper reviews the reform process of China's going-concern auditing standards, summarises the changes in auditor's responsibilities during these reforms, and empirically examines auditors' GCO issuance and accuracy around the 2016 reform, complementing the existing literature studying the effects of auditing standard reforms from the perspective of going-concern audits.

We have to acknowledge that the relationship found in this paper between the 2016 auditing standards reform and auditor's GCO issuance and accuracy may be only correlational rather than causal due to the failure to find a suitable control sample. Although we have done a lot of robustness tests in the paper, we can only mitigate but not solve the omitted variable problem. The conclusion that auditors issue more GCOs and the overall accuracy of GCOs decreases after the reform may still be caused by other macroeconomic factors or firm characteristics that the paper has not considered.

The rest of the paper is structured as follows: Section 2 reviews the evolution process of China's going-concern auditing standards and states our research hypotheses. Section 3 introduces the research design, including sample selection, model design, and variable definitions. Section 4 presents the empirical results of the relationship between the new auditing standards and GCO issuance and accuracy. Section 5 further analyzes the location change of GCO disclosure in audit report and its impacts. Section 6 does robustness tests. Section 7 concludes the paper.

## 2. Institutional background and research hypotheses

### 2.1. Evolution of going-concern auditing standards in China

The issuance of GCOs appeared earlier than the going-concern auditing standards in China. Three and 20 companies received GCOs from auditors in 1997 and 1998, respectively (Shao & Cui, 2006). For example, the audit report issued by Pricewaterhouse Coopers in April 1998 to Gem Electronics mentioned that 'we are unable to confirm the reasonableness of the company's financial statements prepared on a going-concern basis'.<sup>4</sup> In 1999, the China Standards of Auditing No. 17 (CSA №17), *Going-Concern*, was first published, with the aim to regulate the reasonableness of the going-concern assumption considered by auditors in auditing financial statements, to clarify audit requirements and to maintain audit quality.

In 2003, the Ministry of Finance of China revised CSA No. 17. The revised standard, CSA No. 17 (MOF, 2003), clearly defines management's responsibility for preparing financial statements under the going-concern assumption and the auditor's responsibility for evaluating the reasonableness of the auditee's application of the going-concern assumption.<sup>5</sup>

In 2006, the Ministry of Finance promulgated CSA No. 1324, *Going-Concern* (replacing original CSA 17), which further regulates the application of the going-concern assumption in preparing financial statements by management and the related responsibilities of auditors in auditing financial statements. The standard, CSA No. 1324 (MOF, 2006) states that management should assess the company's ability to continue as a going concern in

<sup>4</sup>Quoted from the 1997 audit report of Shijiazhuang Gem Electronic Glass Shell Co., Ltd.

<sup>5</sup>Refer to Article 3 of China Standards of Auditing No. 17, *Going-Concern*, 2003.

accordance with applicable accounting standards and relevant accounting systems, taking into account financial, operational, and other circumstances and matters that cast significant doubt on the going concern. At the same time, the auditor should not only assess whether the going-concern assumption has been appropriately applied by the auditee in preparing the financial statements but should also consider the necessity to disclose material uncertainties about the auditee's ability to continue as a going concern.<sup>6</sup>

In 2010, the Ministry of Finance revised CSA No. 1324, which came into effect on 1 January 2012. The revised standard, CSA No. 1324 (MOF, 2010), further strengthens the responsibility of auditors in going-concern audits in the following two aspects.<sup>7</sup> First, the scope of the auditor's responsibilities is expanded. The revised standard highlights that the auditor should not only obtain sufficient and appropriate audit evidence to determine whether management has appropriately applied the going-concern assumptions in preparing financial statements but should also reach a conclusion as to whether there is a material uncertainty about the auditee's ability to continue as a going concern. As a result, the auditor's responsibility in a going-concern audit extends from 'assessing the appropriateness of the going-concern assumptions' to 'drawing conclusions about the existence of material uncertainties'. Second, it increases the auditor's responsibility to communicate with governance. The revised standard requires, for the first time, that the auditor communicates with governance about circumstances that may cast significant doubt about the auditee's ability to continue as a going concern. This helps the auditor obtain more audit evidence about the auditees' ability to continue as a going concern, and therefore more accurately express a going-concern opinion.

In the 2016 reform of auditing standards, the Ministry of Finance revised CSA No. 1324 and CSA No. 1501 *Forming an Audit Opinion on Financial Statements and Issuing an Audit Report*, as well as issued CSA No. 1504 *Communicating Key Audit Matters in the Audit Report*. The new auditing standards were first implemented on 1 January 2017 in the audit of financial statements of firms cross-listing in both the Mainland China A-share market and the Hong Kong H-share market (AH firms hereafter) and implemented in the audit of all A-share listed firms from 1 January 2018. As shown in Table 1, the new auditing standards emphasise that auditors should pay more attention to the going-concern ability of the audited entity and at the same time increase the responsibilities of auditors in the going-concern audit in several areas. The main changes can be summarised as follows. First, in terms of disclosure, it is required to state in the audit report that the auditor's responsibilities include a going-concern auditor for the first time, and the location of the GCO in the audit report is adjusted and highlighted, equal to or second in importance to the paragraph explaining reasons for issuing MAOs. Second, the new auditing standards expand the factors that the auditor should consider in determining whether the management has adequately disclosed material uncertainties about going concern, and enhance the auditor's responsibility to communicate with governance, regulators, and enforcement institutions about

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<sup>6</sup>Refer to Articles 7 and 11 of China Standards of Auditing No. 1324, *Going-Concern*, 2006.

<sup>7</sup>Refer to Articles 6 and 22 of China Standards of Auditing No. 1324, *Going-Concern*, 2010.

**Table 1.** Evolution of the going-concern auditing standards in China.<sup>8</sup>

The revised points	Standards in 2006	Standards in 2010	Standards in 2016
(1) The paragraph "Responsibilities of auditors" in the audit report	There are no going-concern audit related disclosures.		<b>CSA No. 1501 (MOF, 2016):</b> Add new disclosure on the auditor's responsibilities in the going-concern audit.
(2) Location alternatives of going-concern opinion in the audit report	(a) Paragraph "Basis for forming a qualified (adverse, disclaimer of) opinion" (b) Paragraph "Emphasis of matter"	qualified	<b>CSA No. 1324 and CSA No. 1504 (MOF, 2016):</b> a) Paragraph "Basis for forming a qualified (adverse, disclaimer of) opinion" b) Paragraph "Material uncertainties relating to going concern" c) Paragraph "Key audit matters"
(3) Factors to be considered by auditors in determining the adequacy of disclosures of material uncertainties in going concern	a) Whether the financial statements adequately disclose the principal events or circumstances that may cast significant doubt about going concern and management's plans for responding to those events or circumstances. b) Whether the financial statements have clearly disclosed the existence of material uncertainties about matters or circumstances that may cast significant doubt about the going concern and, as a result, the client may not be able to realize its assets and settle its liabilities in the normal course of business.		<b>CSA No. 1324 (MOF, 2016) adds the following two disclosure factors:</b> a) Management's assessment of the significance of matters or circumstances relating to the audited entity's ability to meet its obligations. b) Significant judgments made by management in assessing the audited entity's ability to continue as a going concern.
(4) Responsibility for communicating with regulators or enforcement institutions	No relevant responsibilities are specified.		<b>CSA No. 1324 (MOF, 2016):</b> For regulated auditees, auditors have a responsibility to communicate with the regulator or enforcement institution regarding material uncertainties about the going-concern of the firm.
(5) Responsibility for communicating with governance on matters that may give rise to significant doubt about going-concern	No relevant responsibilities are specified.	Communication with governance should include the following aspects. a) Whether the events or circumstances constitute a material uncertainty. b) The appropriateness of management's application of the going-concern assumption in preparing the financial statements. c) The adequacy of relevant disclosures in the financial statements.	<b>CSA No. 1324 (MOF, 2016) adds an additional communication aspect:</b> a) Impact of the events or circumstances on audit reports.

going-concern issues. These changes have increased the auditor's responsibilities concerning going-concern audits in both form and substance. With the increase in responsibilities, whether auditors issue more GCO and improve the accuracy of GCO is a question to be examined.

<sup>8</sup>CSA 1501 and CSA 1502, as amended by the 2019 auditing standards reform, do not address going-concern audits, so we focus on the changes in going-concern audit practices around the 2016 reform.

## 2.2. Research hypotheses

When deciding whether to issue a GCO, the auditor takes into account the costs associated with GCO Type I and Type II errors (Ragunandan & Rama, 1995), which are not symmetrical (Carson et al., 2013; Geiger & Rama, 2006; Maso et al., 2020). Costs resulting from GCO Type I errors ( $C_1$ , hereafter) represent the costs incurred if the auditor issues a GCO but the firm does not subsequently become insolvent, including future quasi-rent loss due to dismissal by the client, etc. Costs resulting from GCO Type II errors ( $C_2$ , hereafter) refer to the costs borne by the auditor if the auditor does not issue a GCO and the firm subsequently becomes insolvent, including reputational losses and litigation costs (in China, litigation costs could be substituted for regulation costs). Ragunandan and Rama (1995) derived the following analytical model, where  $P(Z)$  represents the critical probability value of the auditor's decision to issue a GCO given the assessment of  $C_1$  and  $C_2$ .

$$P(Z) = \frac{1}{1 + (C_2/C_1)} \quad (1)$$

According to Equation (1), when  $C_1$  is constant and  $C_2$  increases, in other words, when the auditor suffers greater losses due to the bankruptcy of its client company that has not been issued a GCO, the critical probability value  $P(Z)$  will decrease, indicating the auditor is more likely to issue a GCO. Whereas when  $C_2$  is constant and  $C_1$  increases, that is, when the auditor suffers great losses due to the client company receiving a GCO but not going bankrupt subsequently, the critical probability value  $P(Z)$  will rise and the auditor is less likely to issue a GCO.

We believe that the new auditing standards increase the auditor's propensity to issue GCOs and further impact the accuracy of GCOs, by reducing the cost of Type I errors in GCOs and increasing the cost of Type II errors in GCOs.

First, the new auditing standards increase the reputational and regulatory costs that auditors bear when they make GCO Type II errors. Berglund (2020) notes that the costs of GCO Type II errors depend on the concerns and attitudes of stakeholders towards Type II errors. According to the previous section, the new auditing standards require the auditor to pay more attention to the going-concern ability of the audited entity and add a new disclosure of the auditor's responsibility for the going-concern audit in the audit report, thereby increasing the auditor's responsibility as perceived by investors, creditors and regulators, as well as increasing the attention of clients to the going-concern audit. Therefore, when a company does not receive a GCO from the auditor before insolvency, investors and creditors may consider the auditor to be more responsible after the new auditing standards, and regard Type II errors in the GCO as a sign of lower audit quality (Knechel & Vanstraelen, 2007; Maso et al., 2020). This will damage the auditor's reputation, leading to lower audit fees, auditor dismissals, and difficulties for the auditing firm to attract new clients (Xu & Kalelkar, 2020), thus increasing the reputational costs faced by the auditor. In addition, whether the auditor issues a rigorous audit report is a key factor influencing the regulator's definition of auditor liability (Wu, 2007). In the background of the new auditing standards that strengthen the auditor's responsibility for going-concern audits, regulators may impose more severe penalties and regulations on auditors who make GCO Type II errors, thereby increasing the regulatory costs faced by auditors as well.

Second, the new auditing standards for 2016 reduce the cost of losing clients borne by auditors when they make GCO Type I errors. Geng and Yang (2001) show that modified audit opinions may increase a company's propensity to switch auditors for a favourable audit opinion. However, the heterogeneity of audit services is a prerequisite for achieving audit opinion shopping. The empirical results of Zhang et al. (2006) show that auditors may issue different types of audit opinions to companies with the same going-concern capability, demonstrating the heterogeneity of going-concern audit opinions in the early years of China. This heterogeneity in audit opinions is largely a result of the lack of appropriate guidance in auditing standards (Zhang & Yang, 2010). However, the new auditing standards may reduce the heterogeneity of going-concern audit opinions by refining the matters that the auditor should consider in the course of the audit. Article 24 of Guidance of CSA 1324 (CICPA, 2017) adds two aspects that auditors should consider in determining the adequacy of disclosures of material uncertainties about going-concern: (1) management's assessment of the significance of the matters or circumstances relating to the audited entity's ability to meet its obligations; and (2) significant judgements made by management in assessing the audited entity's ability to continue as a going concern. When the financial statements do not adequately disclose the above relevant matters, the standards explicitly require the auditor to issue a corresponding GCO to draw investors' attention to the auditees' ability to continue as a going concern. This change reduces the likelihood of the auditor issuing a clean audit opinion when aware of going-concern issues, thereby reducing the heterogeneity of going-concern audit opinions. As a result, the new auditing standards increase the difficulty and cost for companies to seek opinion shopping in going-concern audits. Even if a client switches auditor, with the new auditing standards refining going-concern audits and emphasising auditor-regulator communication, it is unlikely that the successor auditor will issue a different going-concern audit opinion from the predecessor auditor. This discourages companies from shopping audit opinions on the GCO. Since the company will be less likely to switch auditor as a result of GCO, the risk of being dismissed by the client if the auditor makes a GCO Type I error is reduced.

In summary, the new auditing standards strengthen the auditor's responsibility for going-concern audits, reduce the cost of Type I errors in GCOs and increase the cost of Type II errors in GCOs, thereby resulting in a lower critical probability value  $P(Z)$  for the auditor to issue a GCO. This means that, *ceteris paribus*, auditors are more likely to issue a GCO after the new auditing standards. At the same time, because of the increased cost of Type II errors, auditors are more reluctant to make Type II errors and the Type II error rate decreases, while the cost of Type I errors decreases and the Type I error rate increases. Therefore, we hypothesise the following:

**H1:** *Auditors are more inclined to issue GCOs following the 2016 new auditing standards.*

**H2a:** *The GCO Type II errors decrease following the 2016 new auditing standards.*

**H2b:** *The GCO Type I errors increase following the 2016 new auditing standards.*

### 3. Research design

#### 3.1. Sample selection

In order to analyse the relationship between the 2016 auditing standards reform and going-concern audits and avoid the possible impact of the 2010 auditing standards reform, we choose to use 2011 as the starting year of our research period. We collect data of GCOs from 2011 to 2020 and data of business failures from 2012 to 2021. Since it is only necessary for auditors of financially distressed firms to consider whether to issue a GCO, the existing literature on GCOs chooses financially distressed firms as research sample, e.g. Albrecht et al. (2020), Beck et al. (2017), DeFond et al. (2018), Gramling et al. (2011), Kaplan et al. (2020) and Maso et al. (2020). Consistent with the above literature, we define a firm as financially distressed if it meets one of the following characteristics: negative net working capital, negative net cash flow from operating activities, negative operating profit, or negative retained earnings. There were 31,031 observations for all A-share listed firms during the period 2011 to 2020, of which 13,627 observations met the definition of financial distress, accounting for 43.91% of all A-share listed firms' observations. A total of 829 firm-years were issued GCOs by auditors during the period 2011–2020, of which 97.95% were observations of financially distressed listed firms. Consistent with the existing literature, the firms receiving GCOs are largely from financially distressed companies and the study of GCOs requires a sample of financially distressed firms.

For the 13,627 observations of financially distressed companies, we exclude: (1) firms in the financial industry;<sup>9</sup> (2) cross-listed firms in the H-share market;<sup>10</sup> (3) observations prior to company listing; and (4) observations of the company failed in the year of receiving GCO. In addition, since the regression model controls for industry dummy variables and the dependent variable is binary, we have removed two industries that never received a GCO: 'residential services, repairs, and other services' and 'health and social work'. Our final sample includes 12,565 observations, of which 723 were issued with a GCO by the auditor.<sup>11</sup> Table 2 presents our sample selection process.

#### 3.2. Regression model

We utilise a complementary log–log model because the dependent variables are all binary and the frequency of events is low. Cameron and Trivedi (2009) state that the complementary log–log model is more appropriate than logit or probit models when the distribution skewness of the dependent variable is high, such as the high probability of the dependent variable being 0 or 1.<sup>12</sup> Hence, we construct the following complementary

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<sup>9</sup>The reasons for removing the financial industry sample are, firstly, that its financial indicators are not the same as those of other sectors. Secondly, auditors are usually reluctant to issue GCOs for financial institutions such as banks given the impact of risk spillovers in the financial system (Albrecht, 2020).

<sup>10</sup>The new auditing standards was first implemented in the audit of financial statements of AH firms in China on January 1, 2017. To avoid the impact of the observations of the first implementation of the new standard on the empirical results, we excluded the observation of cross-listing in the H-share market.

<sup>11</sup>Referring to Kallunki et al. (2019), for firms that received GCOs continuously, we took into account the learning effect and retained the firm-year observations for firms that received GCOs for the first and subsequent periods.

<sup>12</sup>We also used logit models to regress the results of this paper. The sign and significance of the coefficients on *TIME* are consistent with the complementary log–log model, except for one model in Table 6 where the *TIME* variable is not significant.

**Table 2.** Sample selection.

<b>A-share listed firm from 2011 through 2020</b>	31 031
delete: Firms not in financial distress	-17 404
<b>Financially distressed listed firms</b>	<b>13 627</b>
delete: Firms in the financial industry	-462
delete: Cross-listed firms in the H-share market	-387
delete: Observations prior to company listing	-80
delete: Observations of the company failed in the year of receiving GCO	-69
delete: Industries that never received a GCO during the sample period	-64
Final sample	<b>12 565</b>

log–log model to examine the impact of the new auditing standards on the issuance and accuracy of GCOs.

$$GCO = a + \alpha_1 TIME + Control + \varepsilon \quad (2)$$

$$TYPE I \text{ (or TYPE II)} = \beta + \beta_1 TIME + Control + \varepsilon \quad (3)$$

GCO is a dummy variable indicating whether the auditor has issued a GCO. TYPE I (TYPE II) is a dummy variable for whether there is a GCO Type I error (Type II error). TIME is a dummy variable that equals one if the year is after the implementation of the new auditing standards (after 2016) and zero otherwise. The coefficient  $\alpha_1$  indicates the relationship between the implementation of the 2016 new auditing standards and the issuance of GCOs. If  $\alpha_1$  is significantly greater than zero, it indicates that auditors issued more GCOs following the new auditing standards and H1 is supported. The coefficient  $\beta_1$  indicates the relationship between the implementation of the new auditing standards and the accuracy of GCOs. If  $\beta_1$  is significantly greater than zero for Type I errors and less than zero for Type II errors, it indicates an increase in Type I errors and a decrease in Type II errors after the new auditing standards, supporting H2a and H2b.

### 3.3. Variable definitions

#### 3.3.1. Going-Concern Opinion (GCO)

Going-concern Opinion is the dependent variable of model (2). GCO equals one if the auditor mentions matters or circumstances that may cast doubt on the client's ability to continue as a going concern in the audit report, and zero otherwise. If the audit report explicitly mentions statements related to going concern such as 'lack of ability to continue as a going concern', 'there is (significant) uncertainty about the ability to continue as a going concern', the audit opinion is classified as a GCO in this paper. Referring to Kaplan et al. (2020) and Jiang and Li (2011), if the auditor does not directly mention the term 'going-concern', but explicitly mentions matters such as 'facing significant liquidity risk', 'inadequate working capital' and 'short-term debt-paying pressure', which indicate a lack of ability to continue as a going concern, we also treat the audit opinion as a GCO. For audit reports prior to 2016, we search the paragraph 'Emphasis of matter' and the paragraph 'Basis for forming a qualified (adverse, disclaimer of) opinion' for the key statements of GCOs above. For audit reports after 2016, we search three paragraphs,

namely 'Key audit matters',<sup>13</sup> 'Material uncertainties relating to going-concern' and 'Basis for forming a qualified (adverse, disclaimer of) opinion'. The audit report data were mainly obtained from the CSMAR database and verified or supplemented by manually reviewing the audit reports on the CNINFO Website.

### 3.3.2. GCO type I errors and type II errors

Type I errors (*TYPE I*) and Type II errors (*TYPE II*) are the dependent variables in model (3), both of which are dummy variables. Type I error (*TYPE I*) indicates that the firm received a GCO but did not fail subsequently, and Type II error (*TYPE II*) indicates that the firm did not receive a GCO but failed subsequently. We use failure rather than bankruptcy to measure GCO errors, as used in the existing literature, because bankruptcy is an extremely rare event in China. Even in the US, bankruptcies are rare (Maso et al., 2020). Carson et al. (2013) and Nogler (1995) point out that bankruptcy is only one of the possible outcomes for firms receiving a GCO, with other outcomes including restructuring, mergers and acquisitions, or delisting. Carson et al. (2013) suggest using variables other than bankruptcy to measure the accuracy of the GCO. Drawing on the existing literature (Maso et al., 2020; Nogler, 1995) and the actual situation in China, we define the *FAIL* dummy variable as follows: *FAIL* equals one when the company files for bankruptcy liquidation, bankruptcy reorganisation or debt restructuring, and zero otherwise.

As for the period of examining the failure of a firm after the audit report has been issued, US auditing standards require the auditor to assess the client's ability to continue as a going concern 'within a reasonable period of time not exceeding 12 months' (Kaplan et al., 2020; Raghunandan & Rama, 1995). The existing literature mostly uses a 12-month period to define GCO accuracy, with a small amount of literature extending the assessment period to two years after the audit report (Maso et al., 2020). Chinese auditing standards have no relevant requirements for the assessment period. We first define GCO accuracy using a one-year period after the audit report in the main analyses, and then extend the examination period to three years after the audit report in the robustness tests.

### 3.3.3. Implementation of the new auditing standards (*TIME*)

The new auditing standards for 2016 became fully effective for all A-share listed companies on 1 January 2018, which means that the new auditing standards became applicable for the 2017 A-share annual report audit. Therefore, *TIME* equals one for observations from 2011 to 2016, and zero for observations from 2017 to 2020.

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<sup>13</sup>Does the going concern issue mentioned in the key audit matters indicate that the auditor's doubts are less severe and do not constitute a GCO? According to the data collected in this paper, the reason why the auditor lists going-concern issues as a key audit matter is basically because the auditor believes that there are matters casting doubt on the company's going concern and the judgement of applying the going-concern assumption relies on management's significant assumptions or estimates. For example, the 2020 audit report of Shenhua Holdings is described as follows: 'As shown in the consolidated financial statements, the net profit attributable to shareholders of the parent company for the year 2020, excluding non-recurring gains and losses, was -\$782 million, and as of December 31, 2020, the cash balance was \$375 million, decreased by \$908 million compared to last year, as shown in the notes 5.22 and 5.30. Also, the company's short-term debt and long-term debt due within one year totalling 65375,300,000 RMB were overdue at the end of this period. The above situations caused us to have doubts about the company's going concern assumption, which involves significant judgement by management, and thus we identified going concern as a key audit matter'. Based on this data, this paper regards that the going-concern issue in the key audit matters also indicates that the auditor has doubts about it and thus is a GCO. Anyway, later in the further analysis this paper analyzes the results of considering only the GCOs leading to modified audit opinions.

### 3.3.4. Control variables

We controlled for variables that included both client characteristics and auditor characteristics, referring to the existing literature (Jiang & Li, 2011; Raghunandan & Rama, 1995; Zhang et al., 2014; Zhang et al., 2006). Among the client characteristics are (1) firm size (*Lnsiz*), the natural logarithm of total assets; (2) cash flow-to-debt ratio (*CFTL*), net cash flow from operating activities divided by total liabilities; (3) return on total assets (*Roa*), net profit divided by total assets; (4) asset-liability ratio (*Lev*), total liabilities divided by total assets; and (5) number of years listed (*Lnage*), the natural logarithm of the number of listing years plus one. Auditor characteristics are (1) auditor size (*Big4*), a dummy variable that equals one when the audit firm is an international Big 4, and zero otherwise; (2) auditor tenure (*Tenure*), the number of years the auditing firm has provided continuous annual report auditing services to the client; and (3) audit lag (*Timegap*), the natural logarithm of the number of days the audit report is lagged relative to the financial reporting year-end. The existing literature suggests that the smaller the firm, the smaller the cash flow-to-debt ratio, the weaker the profitability, the higher the debt ratio and the longer the number of listing years, the greater the operational and financial risk of the firm, the more likely the audited entity is to experience failure and to be issued a GCO by the auditor. And the larger the audit firm, the longer the tenure and the longer the time commitment, the more likely the auditor is to find a client's going-concern problems and therefore issue a GCO. In addition, considering the existence of qualified audit opinions in China, we control the dummy variable of audit opinions (*Opinion*), which equals one for qualified (adverse, disclaimer of) opinions, and zero otherwise. Finally, we control for industry fixed effects. The specific definitions of the variables used in this paper are shown in Table 3.

**Table 3.** Variable definitions.

Variable	Symbol	Definition
Going-concern opinion	<i>GCO</i>	Indicator variable equal to one if the auditor refers to matters or circumstances in the client's current year audit report that may cast doubt on the client's ability to continue as a going concern, and zero otherwise.
TYPE I error	<i>TYPE I</i>	Indicator variable equal to one if the firm receives a GCO but does not fail in the following year, and zero otherwise.
TYPE II error	<i>TYPE II</i>	Indicator variable equal to one if the firm does not receive a GCO but fail in the following year, and zero otherwise.
Total errors	<i>ERROR</i>	Indicator variable equal to one if <i>TYPE I</i> = 1 or <i>TYPE II</i> = 1, and zero otherwise.
FAIL	<i>FAIL</i>	Indicator variable equal to one if the firm files for bankruptcy reorganization, bankruptcy liquidation or debt restructuring, and zero otherwise.
New Auditing Standards	<i>TIME</i>	Indicator variable equal to one after the implementation of the new auditing standards (2017–2020), and zero before (2011–2016).
Firm size	<i>Lnsiz</i>	The natural logarithm of total assets.
Cash flow to debt ratio	<i>CFTL</i>	Net cash flow from operating activities divided by total liabilities.
Return on assets	<i>Roa</i>	Net profit divided by total assets.
Asset-liability ratio	<i>Lev</i>	Total liabilities divided by total assets.
Number of years listed	<i>Lnage</i>	The natural logarithm of the number of listing years plus 1.
Auditor tenure	<i>Tenure</i>	The number of years the audit firm has provided continuous annual report auditing services to the client.
Audit lag	<i>Timegap</i>	The natural logarithm of the number of days the audit report is lagged relative to the financial reporting year-end.
Auditor size	<i>Big4</i>	Indicator variable equal to one if the audit firm is an international Big 4, and zero otherwise.
Qualified opinions	<i>Opinion</i>	Indicator variable equal to one if the audit opinions are qualified (adverse, disclaimer of) opinion, and zero otherwise.

## 4. Empirical results

### 4.1. Descriptive statistics

We report the annual distribution of sample observations, the frequency of GCOs, the frequency of business failure in the next year, and the frequency of both GCO Type I errors and Type II errors in Panel A of Table 4. The frequency of GCOs does not increase monotonically with the year, e.g. 79 observations received GCO in 2011 and only 33 in 2013; after experiencing a significant increase in GCO in 2018 and 2019, there is a fall back in 2020, probably because auditors are reluctant to issue GCO due to the COVID-19 pandemic in 2020.<sup>14</sup> However, in terms of the overall trend, the contrast before and after the new auditing standards is still evident: the total number of GCOs increased from 287 to 436, and the chi-square test values for the *TIME* and *GCO* variables were significant at the 1% level. The number of events in which firms in China experienced failure (*FAIL* = 1) was low, with a slight increase in the number following the new auditing standards, and the chi-square test value was significant at the 10% level. The insignificant changes in the sample observations before and after the new auditing standards show that the increase in the number of GCOs and failures is not due to an increase in the overall number of observations. In addition, the number of Type I errors is consistently much higher than Type II errors, suggesting that Chinese auditors are quite cautious in their GCO audits. They would rather make Type I errors than making Type II errors. The two types of errors also showed different trends before and after the new auditing standards: the number of Type I errors increased and the number of Type II errors decreased, both of which were significant at the 1% level in the chi-square test for the crossover with *TIME*. The results of the descriptive statistics indicate that auditors became more cautious after the new auditing standards.

Panel B of Table 4 compares the differences in means between variables before and after the new auditing standards. The proportion of observations receiving a GCO increased from 4.1% to 7.7%, with the difference significant at the 1% level, indicating that auditors are more inclined to issue a GCO. Considering the change of fundamental company characteristics, the increased size, higher cash flow to debt ratios and lower asset-liability ratios suggest that the auditor's issuance of more GCOs is not due to smaller companies or weaker solvency. However, the mean value of profitability (*Roa*) decreased by 0.019 after the new standards, implying that auditors' greater tendency to issue GCOs may have been caused by poorer company performance rather than by the implementation of new standards. Given that the profitability in 2020 was severely affected by the COVID-19 pandemic, we exclude the samples in 2020 and re-do the statistics (not tabulated for space reasons). The results show that *Roa* decreases to -0.004 and the reduction range decreases to 0.015 after the implementation of the standards. However, the GCO ratio remains at 7.7%, meaning that the increase in GCO following the new standard is not related to the decline in corporate performance in 2020. Anyway, the latter regression analyses need to control *Roa* because the overall GCO is still likely to rise as *Roa* drops. In terms of auditor characteristics, auditor tenure has increased, which is related to

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<sup>14</sup>In 2021, the number of GCOs increased again to 135, of which 16 were issued in the 'Key audit matters' paragraph, 78 in the 'Material uncertainties relating to going-concern' paragraph and 31 in the 'Basis for forming a qualified (adverse, disclaimer of) opinion' paragraph. Since the accuracy analysis of GCO requires the failure data in 2022, in order to maintain a consistent sample, the statistics of GCO in the text are up to 2020.

**Table 4.** Descriptive statistics.

Panel A: Sample distribution over years						
Year	N	<i>GCO</i> = 1	<i>FAIL</i> = 1	<i>TPYE I</i> = 1	<i>TPYE II</i> = 1	
2011	1 176	79	16	69	6	
2012	1 079	46	10	42	6	
2013	1 118	33	6	30	3	
2014	1 190	43	11	38	6	
2015	1 190	46	20	38	12	
2016	1 181	40	15	35	10	
2017	1 385	60	8	53	1	
2018	1 406	120	20	104	4	
2019	1 377	139	23	119	3	
2020	1 463	117	32	94	9	
Total	12 565	723	161	622	60	
<i>TIME</i> = 0vs. <i>TIME</i> = 1	6 934 vs. 5 631	287 vs. 436	78 vs. 83	252vs.370	43vs.17	
Chi-square		74.42***	2.99*	56.95***	6.62***	

Panel B: Means comparison of variables before and after the new auditing standards						
Variables	<i>TIME</i> = 0		<i>TIME</i> = 1		Difference	
	N	Mean	N	Mean		
<i>GCO</i>	6934	0.041	5631	0.077	0.036***	
<i>TYPE I</i>	6934	0.036	5631	0.066	0.029***	
<i>TYPE II</i>	6934	0.006	5631	0.003	-0.003**	
<i>Lnsiz</i>	6934	21.990	5631	22.260	0.263***	
<i>CFTL</i>	6934	-0.018	5631	0.006	0.024***	
<i>Roa</i>	6934	0.011	5631	-0.008	-0.019***	
<i>Lev</i>	6934	0.523	5631	0.513	-0.010**	
<i>Lnage</i>	6934	2.329	5631	2.434	0.105***	
<i>Tenure</i>	6934	6.739	5631	7.374	0.635***	
<i>Timegap</i>	6934	4.517	5631	4.639	0.122***	
<i>Big4</i>	6934	0.038	5631	0.039	0.001	
<i>Opinion</i>	6934	0.018	5631	0.074	0.056***	

the passage of time. The audit time lag has also increased, indicating that auditors have increased their audit time. In addition, there has been a significant increase in qualified (adverse, disclaimer of) opinions following the new auditing standards, which may be a result of improved audit quality or auditors becoming more cautious.

#### 4.2. Issuance of going-concern opinion

To analyse whether auditors issued more GCOs after the new standards, we successively regressed Equation (2) using the full sample data and excluding the 2020 sub-sample data, and the results are shown in Table 5. Column (1) of Table 5 shows that the coefficient of *TIME* is 0.252, which is statistically significant at the 1% level, indicating that auditors are more inclined to issue GCOs after the new auditing standards. Assuming the control variables remain at the mean level, the marginal effect of *TIME* is 0.009 ( $z = 2.63$ ). It indicates that when *TIME* goes from 0 to 1, the probability of GCO issuance increases by 0.9%. Considering that auditors are less willing to issue GCOs in 2020 due to the impact of the COVID-19 pandemic, we remove the 2020 sample and re-regress. The results are presented in column (2) of Table 5: the coefficient of *TIME* is 0.298, and the marginal effect is 0.010, both significant at the 1% level. These results support H1: auditors are more inclined to issue GCOs following the 2016 new auditing standards. The new auditing

**Table 5.** The new auditing standards and GCO issuance.

	GCO	
	(1) Full sample	(2) Subsample excluding 2020
<i>TIME</i>	0.252*** (2.64)	0.298*** (2.74)
<i>Lnsiz</i>	-0.582*** (-13.87)	-0.643*** (-13.52)
<i>CFTL</i>	-0.796*** (-2.82)	-0.509* (-1.67)
<i>Roa</i>	-6.388*** (-11.25)	-6.707*** (-10.83)
<i>Lev</i>	3.981*** (17.36)	3.869*** (15.31)
<i>Lnage</i>	0.835*** (8.34)	0.796*** (7.01)
<i>Tenure</i>	-0.020** (-2.42)	-0.024*** (-2.63)
<i>Timegap</i>	0.625*** (2.69)	0.580** (2.39)
<i>Big4</i>	0.901*** (3.80)	0.897*** (3.18)
<i>Opinion</i>	1.718*** (13.54)	1.793*** (12.14)
<i>_cons</i>	1.798 (1.20)	3.139* (1.95)
<i>Industry</i>	Control	Control
<i>N</i>	12 565	11 102
<i>Chi2</i>	1484.826***	1237.130***
Marginal Effect (ME) of <i>TIME</i>	0.009*** <b>(2.63)</b>	<b>0.010</b> <b>(2.74)</b>

\*\*\*, \*\*, \* represents 1%, 5%, or 10% significance, respectively. The z values are in parentheses.

standards enhance the auditor's responsibility for the going-concern audit in both form and substance. Formally, the standards clarify the auditor's responsibility for going concern in the audit report and highlight the location of GCOs. In substance, the standards strengthen the auditor's considerations in the going-concern audit process and the auditor's responsibility to communicate with governance, regulators, or enforcement institutions. As a result, the number of GCOs issued by the auditor increases significantly after controlling for company characteristics, auditor characteristics, and qualified audit opinion variables.<sup>15</sup>

The results for the control variables are largely consistent with the existing literature. The smaller the size of the firm, the smaller the cash flow-to-debt ratio, the weaker the profitability, the higher the debt ratio, the longer the company has been listed, and the greater the operational and financial risk of the firm, the greater the likelihood that it will suffer failure and thus be more likely to be issued a GCO by the auditor. And the larger the audit firm and the longer it has been engaged, the more likely it is to identify a client's going-concern problems and therefore issue a GCO. The results for auditor tenure are less consistent. We found that the shorter the auditor's tenure, the more likely the auditor was

<sup>15</sup>To examine the specific change year after the new auditing standards, we replaced the *TIME* variable with a series of year dummy variables and regressed Table 5 using the year prior to the new auditing standards, i.e. 2016, as the reference group. The results show significantly positive coefficients for 2017 and 2018, and positive but insignificant coefficients for 2019 and 2020. This indicates that the impact of the new auditing standards on the GCO issuance is mainly felt in the first two years after implementation, after which the effect slowly diminishes.

to issue a GCO, suggesting that the long tenure of the auditor may reduce independence. Finally, qualified (adverse, disclaimer of) opinions are significantly and positively correlated with GCO. This is not surprising since some GCOs appear precisely in qualified (adverse, disclaimer of) audit opinions, and some companies receive both GCOs and qualified (adverse, disclaimer of) audit opinions.

### 4.3. The accuracy of the going-concern audit opinion

We examine the impact of the new auditing standards on GCO Type I and Type II errors by regressing on Equation (3). As the existing literature focuses more on Type II errors and considers them as an important indicator of audit quality, we regress Type II errors first and then Type I errors. Existing literature chooses different samples for the analysis of Type II and Type I errors: (1) some literature uses the full sample, e.g. DeFond et al. (2018), Maso et al. (2020); (2) some literature selects sub-samples based on GCO issuance, e.g. Gramling et al. (2011) selects those with GCO taking one as the subsample for Type I errors, with  $Prob(FAIL = 0|GCO = 1)$  as a Type I error probability, and those with GCO taking zero as the subsample for Type II errors, with  $Prob(FAIL = 1|GCO = 0)$  as a Type II error probability; (3) some literature selects samples based on firm failure (*FAIL*), e.g. Kallunki et al. (2019) selects *FAIL* taking one as the subsample for Type II errors, with  $Prob(GCO = 0|FAIL = 1)$  as Type II error probability, while *FAIL* taking zero as the subsample for Type I errors, with  $Prob(GCO = 1|FAIL = 0)$  as Type I error probability; (4) some literature that uses a subsample of GCO taking one for the analysis of Type I errors and switches to a subsample of *FAIL* taking one for the analysis of Type II errors, e.g. Geiger and Rama (2006). There is also literature that uses subsamples for descriptive statistics and full samples for regression analysis (Albrecht et al., 2020). Table 6 reports the results of three sample selections: full sample, subsample selected according to *FAIL*, and subsample selected according to GCO. However, we believe that it is more appropriate to analyse GCO given *FAIL* since GCO relies on the auditor's judgement but *FAIL* itself does not rely on the auditor. Thus, whether the auditor issues a GCO ex ante is more indicative of the accuracy of the auditor's judgement.

The results in Table 6 show that the coefficient of *TIME* is negative for Type II errors and positive for Type I errors regardless of the choice of sample selection, and the coefficients in all regression models are statistically significant. This indicates that auditors made fewer Type II errors and more Type I errors in going-concern audits after the new auditing standards. In economic implications, the marginal effects of *TIME* on Type II errors were  $-0.005$ ,  $-0.153$  and  $-0.005$  in the three models, and on Type I errors were  $0.014$ ,  $0.010$  and  $0.049$  in the three models, respectively. Taking the sub-sample selection based on *FAIL* for example, the new auditing standards resulted in a 15.3% reduction in the Type II errors (see column (2) of Table 6), but a 1% increase in the Type I errors (see column (5) of Table 6) when the control variables were kept at their mean levels. The results in Table 6 support H2a and H2b. The cost to the auditor of making a Type II error increases with the new auditing standards, but the cost of making a Type I error decreases, resulting in a decrease in Type II errors and an increase in Type I errors.

Does the overall accuracy of the GCO increase or decrease? We calculate the total error (*ERROR*): the presence of either a Type I or a Type II error, and then perform a regression using the full sample. The results showed a significantly positive coefficient of *TIME* (0.240,

**Table 6.** The new auditing standards and GCO accuracy.

	TYPE II (1)	TYPE II (2)	TYPE II (3)	TYPE I (4)	TYPE I (5)	TYPE I (6)	ERROR (7)
	Full sample	FAIL = 1	GCO = 0	Full sample	FAIL = 0	GCO = 1	Full sample
<i>TIME</i>	-1.064*** (-3.49)	-1.014** (-2.04)	-0.897*** (-3.09)	0.379*** (3.55)	0.291*** (2.90)	0.229* (1.74)	0.240** (2.37)
<i>Lnsiz</i>	-0.127 (-1.19)	0.277* (1.92)	-0.340** (-2.57)	-0.585*** (-12.76)	-0.635*** (-14.13)	-0.127*** (-2.93)	-0.543*** (-12.49)
<i>CFTL</i>	-0.130 (-0.25)	3.461* (1.81)	-0.239 (-0.45)	-0.650*** (-2.64)	-0.702** (-2.43)	0.241 (0.79)	-0.641*** (-2.69)
<i>Roa</i>	0.085 (0.04)	8.209*** (3.76)	-1.597 (-0.70)	-5.361*** (-8.59)	-6.188*** (-10.29)	1.117 (1.63)	-4.963*** (-8.22)
<i>Lev</i>	3.883*** (5.40)	-3.874*** (-3.24)	6.351*** (6.86)	2.603*** (12.60)	3.856*** (16.09)	-1.685*** (-5.80)	2.753*** (13.59)
<i>Lnage</i>	0.403* (1.82)	-0.438 (-0.80)	0.352 (1.55)	0.827*** (9.29)	0.848*** (8.19)	0.278** (2.25)	0.790*** (9.49)
<i>Tenure</i>	0.015 (0.68)	0.021 (0.65)	0.008 (0.36)	-0.021** (-2.48)	-0.022** (-2.56)	-0.012 (-1.19)	-0.018** (-2.27)
<i>Timegap</i>	1.814** (2.42)	0.988 (0.96)	1.997*** (2.67)	0.189 (0.89)	0.541** (2.28)	-0.756*** (-2.81)	0.336 (1.64)
<i>Big4</i>	0.784 (1.19)		1.007 (1.51)	0.944*** (3.89)	1.058*** (4.27)	0.593* (1.67)	0.935*** (4.11)
<i>Opinion</i>	0.583 (1.30)	-1.329** (-2.40)	1.468*** (3.74)	1.248*** (8.96)	1.723*** (12.75)	-0.204* (-1.73)	1.199*** (8.83)
<i>_cons</i>	-13.964*** (-3.06)	-4.953 (-0.86)	-10.606** (-2.23)	4.864*** (3.44)	3.331** (2.11)	8.011*** (4.74)	3.393** (2.50)
<i>Industry</i>	Control	Control	Control	Control	Control	Control	Control
<i>N</i>	11 440	140	10 800	12 565	12 404	714	12 565
<i>Chi2</i>	277.329***	46.554***	312.920***	1258.453***	1404.013***	77.074***	1226.738***
<i>ME of TIME</i>	-0.005*** (-3.21)	-0.153** (-2.37)	-0.005*** (-2.90)	0.014*** (3.51)	0.010*** (2.88)	0.049* (1.76)	0.010** (2.35)

\*\*\*, \*\*, \* represents 1%, 5%, or 10% significance, respectively. The z values are in parentheses.

$z = 2.37$ ) and a marginal effect of 0.010 ( $z = 2.35$ ), as shown in column (7) of Table 6. Combined with the findings in H1 of Table 5, the data in this paper show that the frequency of GCOs issuance has increased following the new auditing standards, but the accuracy of GCOs has decreased, particularly with regard to Type I errors. Overall, the accuracy of the GCO has not improved with the implementation of the new auditing standards and auditors have become more cautious due to concerns about higher regulatory costs and reputational damage.

## 5. Further analyses: location of going-concern opinions

China auditing standards reform in 2016 eliminated the location choice communicating material uncertainties about going concern in the paragraph 'Emphasis of matter'. Instead, auditors are required to add a separate paragraph 'Material uncertainties relating to going concern' in the audit report to remind investors of the firm's ability to continue as a going concern. In addition, the new auditing standards add another paragraph 'Key audit matters'. In accordance with the application guidance of CSA 1324 and CSA 1504, if the auditor considers that there is no material uncertainty about going concern, the auditor may further consider whether going concern constitutes a key audit matter.<sup>16</sup> If yes, the auditor could communicate going-concern issues in the 'Key audit matter'

<sup>16</sup>Please refer to Item (2) of Article 41 of the application guidance of CSA 1504.

paragraph. The above two paragraphs are new and positioned in the audit report immediately after the paragraph 'Basis for forming a qualified (adverse, disclaimer of) opinion'.<sup>17</sup> Figure 1 compares changes in GCO location choices before and after the new auditing standards.

From the auditing standards perspective, the location of GCO reflects the severity of the firm's going-concern issues: after the new standard, for example, the more forward location GCO appears in the audit report, the more severe the going-concern issue. The GCO is most severe when the auditor communicates it in location 3, the paragraph that explains the reasons for a qualified (adverse, disclaimer of) opinion. GCO in location 3 indicates that management's application of the going-concern assumption is inappropriate or there is a material uncertainty about going concern that management has not adequately disclosed, leading to auditors issuing a qualified (adverse, disclaimer of) opinion ultimately. However, Li and Wu (2002) caution that in practice, auditors may abuse the alternative choices provided by auditing standards to vary the location of GCO and choose a less severe one to compromise with the client. That is, a GCO that would have been issued in location 3 may end up being issued in location 2 or location 1 by the auditor for client relationship reasons, i.e. to communicate going-concern issues but not issue a qualified (adverse, disclaimer of) opinion.<sup>18</sup>

The new auditing standards add location 1 and change location 2 to a paragraph directly related to the going concern, and move location 2 and location 1 forward in the

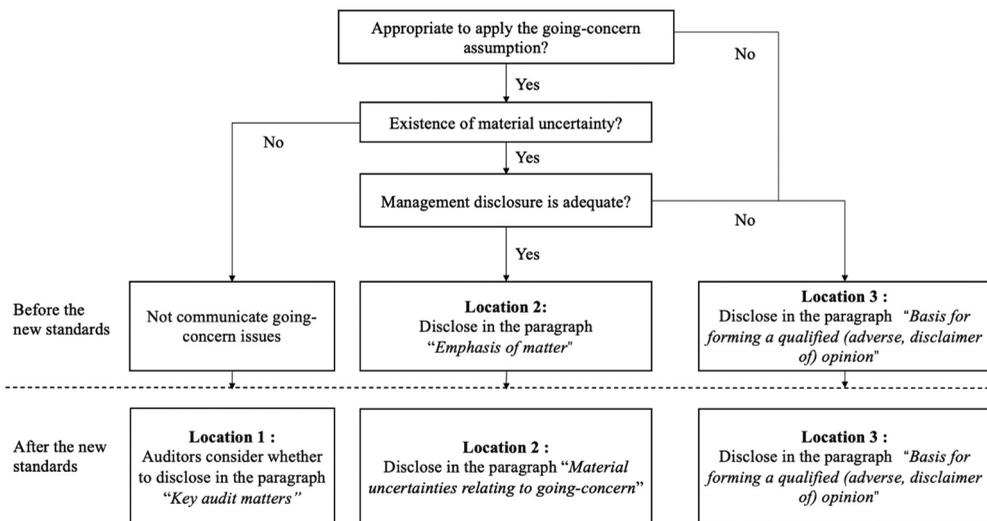


Figure 1. Change in GCO location alternatives before and after the new auditing standards.

<sup>17</sup>If an audit report contains all the three paragraphs, the order is 'I. Basis for forming a qualified (adverse, disclaimer of) opinion', 'II. Material uncertainties relating to the going concern', and 'III. Key audit matters'.

<sup>18</sup>The '2018 Annual Securities Audit Market Analysis Report' issued by the Accounting Department of China Securities Regulatory Commission also pointed out that 'some auditors also have the problem of placing material uncertainties related to going concern in the emphasis of matter and Key audit matter paragraphs'. The report does not mean that all going-concern issues cannot appear in the Key audit matter, but that material uncertainties or material doubts relating to going concern cannot appear in the Key audit matter.

auditor's report to after location 3. This amounts to adding alternative disclosure locations for the auditor to issue a GCO, and the alternative locations are prominent enough in the audit report to attract the attention of investors. We expect the auditor to be more likely to choose location 2 and location 1 after the new auditing standards. On the one hand, because of the prominent disclosure, investors or regulators may not perceive that the auditor has made a Type II error if the client later fails in its operations, thus significantly reducing the auditor's regulatory costs or reputational damage. On the other hand, while location 2 and location 1 communicate going-concern issues, the auditor does not issue a qualified (adverse, disclaimer of) audit opinion. The new paragraphs are less likely to trigger client dissatisfaction and better maintain the client relationship. This reduces the cost of Type I error borne by the auditor. Thus, the increase in GCOs and the change in GCO errors following the new auditing standards may be related to the fact that the new auditing standards have changed the locations of GCOs.

From the descriptive statistics in Panel A of Table 7, the frequencies of location 2 and location 3 have increased after the new auditing standards and location 1 has been added. We change the dependent variable in Equation (2) 'whether a GCO is issued' to 'whether a GCO is issued in locations 1&2', and rerun the regressions using both the full sample and the subsample with  $GCO = 1$ . The results (Panel B of Table 7) show that the coefficient of *TIME* is significantly positive. Marginal effects show that auditors are more likely to choose to communicate GCOs in locations 1&2 after the new auditing standards, with a 1% (of the full sample) or 7% (of the subsample of GCO issued) increase in issuance. Because of the new locations, the auditor is less concerned about issuing a GCO that affects the client relationship and is thus more willing to issue a GCO in either location 1 or location 2 to communicate concerns about the uncertainty of the client's ability to continue as a going concern.

Then, we examine whether the decrease in Type II errors and the increase in Type I errors are due to the location change. The overall increase in GCO, regardless of location, will undoubtedly result in a decrease in Type II errors, i.e. the failure to issue a GCO to a failed company. The key question then lies in whether the location of GCO affects Type I errors. The data on the far right-hand side of Panel A of Table 7 shows that location 1 and location 2 have much higher rates of Type I errors than location 3. That means companies with GCOs issued in location 1 and location 2 are less likely to fail afterwards. This initially suggests that different locations of GCO do not reflect the same level of severity of going-concern issues: GCOs issued in location 3 are relatively more severe than those in location 1&2. Panel B shows that auditors are more likely to issue GCO in location 1 and location 2 after the reform. Does the increase in location 1 and location 2 result in an increase in the GCO's Type I error after controlling for other factors? Panel C of Table 7 performs two sets of regressions. The first group, removing the GCOs in location 1 and location 2 and retaining only GCOs in location 3, shows that the coefficient of *TIME* on *TYPE I* is not significant. That is, if we look only at location 3, the implementation of the new auditing standards has not significantly increased Type I errors. In the second group, with location 3 removed and locations 1 and 2 retained, the regression results show that the coefficient of *TIME* on *TYPE I* is positive and significant at the 1% level in the full sample and in the  $FAIL = 0$

**Table 7.** Location and GCO issuance and accuracy<sup>19</sup>.

Panel A: Descriptive statistics of GCO locations							
	<i>TIME</i> = 0	<i>TIME</i> = 1	Total number	Number of <i>TYPE I</i> = 1	Type I error rate		
Location = 1		21	21	20	95.24%		
Location = 2	256	302	558	496	88.89%		
Location = 3	31	113	144	106	73.61%		
Total	287	436	723	622	86.03%		

Panel B: Are auditors more willing to issue GCOs in location 1 & 2 after the new auditing standards?			
Whether the GCO issued at Location 1&2			
	(Full sample)	(Subsample of GCO = 1)	
<i>TIME</i>	0.272*** (2.76)	0.589*** (2.27)	
<i>Control</i>	Control	Control	
<i>N</i>	12 565	708	
<i>Chi2</i>	1212.041***	132.096***	
Marginal Effect of <i>TIME</i> (z)	0.010*** (2.75)	0.073** (2.27)	

Panel C: Location of GCO and Type I error							
	Location = 3			Location = 1&2			
	<i>TYPE I</i>	<i>TYPE I</i>	<i>TYPE I</i>	<i>TYPE I</i>	<i>TYPE I</i>	<i>TYPE I</i>	<i>ERROR</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Full sample	<i>FAIL</i> = 1	<i>GCO</i> = 0	Full sample	<i>FAIL</i> = 0	<i>GCO</i> = 1	Full sample
<i>TIME</i>	0.137 (0.45)	-0.310 (-0.98)	0.537 (1.49)	0.318*** (3.12)	0.323*** (3.11)	0.135 (0.92)	0.174* (1.79)
<i>Control</i>	Control	Control	Control	Control	Control	Control	Control
<i>N</i>	11 405	11 311	133	12 421	12 298	559	12 421
<i>chi2</i>	191.9***	217.9***	29.2***	1348.9***	1339.5***	59.7***	1352.7***
ME of <i>TIME</i>	0.001 (0.46)	-0.001 (-0.98)	0.138 (1.51)	0.010*** (3.09)	0.010*** (3.08)	0.025 (0.93)	0.006* (1.78)

\*\*\*, \*\*, \* represents 1%, 5%, or 10% significance, respectively. The z values are in parentheses.

subsample. The results of the two sets of regressions show that only location 1 and location 2 had a significantly higher TYPE I error after the implementation of the new auditing standards. The results in the last column show that the GCO in location 1 and location 2 have increased overall error rates, mainly due to an increase in Type I errors following the new auditing standards.

Our results also indicate that the auditor did not misuse auditing standards. GCOs issued in different locations reflect the different going-concern abilities of the clients, and the severity of location 1 or location 2 is not the same as location 3. Auditors issue more GCOs simply because the advantage of an alternative location increases the auditor's willingness to communicate going-concern issues. The data not listed in this paper show that in the 2021 audit report, there are 16 companies where the auditors communicated the going-concern issues in location 1 'Key Audit Matters', and 78 companies in location 2. This also indicates that auditors are increasingly willing to communicate less serious

<sup>19</sup>The combination of location 1 and location 2 in Table 7 is not intended to be a conflation of the two as reflecting the same level of going concern issues, but for two reasons. Firstly, the nature of the audit opinion is different from that of location 3, which is a qualified (adverse, disclaimer of) audit opinion, whereas location 1 and location 2 are not; and secondly, the number of location 1 is currently too small, with only 21 in total. As the number of location 1 increases (16 in 2021), a separate analysis can be carried out later.

going-concern issues in either location 2 or location 1 of the audit report in the context of the new auditing standards that strengthen the auditor's responsibility for going-concern audits and adjust locations to be prominent.

## 6. Robustness tests

### 6.1. Extending examination period for business failure

Chinese auditing standards do not specify how long the auditor assesses going-concern issues from the date of the audit report. Here, we extend the examination period for failure from one year to three years: *FAIL* equals one if the company fails within three years of the audit report, and zero otherwise.<sup>20</sup> The frequency of Type I errors in the full sample fell with the extended examination period, from 622 to 548, while the frequency of Type II errors rose, from 60 to 227. We then re-ran the regression in Table 6 and the results are shown in Table 8. The findings in Table 8 are largely similar to those in Table 6: Type II errors decreased significantly and Type I errors increased significantly after the new auditing standards. However, there was no significant change in overall errors.

### 6.2. Placebo test: shifting *TIME* forward

Because of the lack of a control sample, our regression model has only one explanatory variable, *TIME*, which may lead to other explanations for the conclusion: changes in GCOs issuance and accuracy may be due to changes in other regulatory environments or the macro environment rather than to the 2016 auditing standards reform. To demonstrate the robustness of the previous regression results, we attempt to conduct placebo tests by shifting the time at which the policy occurred. First, we keep all sample observations and

**Table 8.** The new auditing standards and GCO accuracy (extending examination period for business failures).

	TYPE II	TYPE II	TYPE II	TYPE I	TYPE I	TYPE I	ERROR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Full sample	<i>FAIL</i> = 1	<i>GCO</i> = 0	Full sample	<i>FAIL</i> = 0	<i>GCO</i> = 1	Full sample
<i>TIME</i>	-0.487*** (-3.19)	-0.347* (-1.68)	-0.385*** (-2.59)	0.383*** (3.53)	0.305*** (2.84)	0.363*** (2.85)	0.086 (1.00)
<i>Control</i>	Control	Control	Control	Control	Control	Control	Control
<i>N</i>	12 565	394	11 842	12 565	12 163	714	12 565
<i>Chi2</i>	324.387***	146.230***	402.658***	1279.665***	1320.394***	116.848***	1285.378***
<i>ME of TIME</i>	-0.009*** (-3.14)	-0.063* (-1.68)	-0.007*** (-2.56)	0.013*** (3.50)	0.010*** (2.82)	0.097*** (2.88)	0.004 (1.00)

\*\*\*, \*\*, \* represents 1%, 5%, or 10% significance, respectively. The z values are in parentheses.

<sup>20</sup>The reason we extend the examination period of failure to three years is that in actual cases we find auditors have issued GCOs in advance. For example, Hainan Airlines has received GCOs for three consecutive years of audit reports since 2018; in 2021 Hainan Airlines began its bankruptcy restructuring. Of course, there is the possibility that the period of time is too long and the operational risk characteristics of the client firm have changed. If the operational risk changes in year  $t + 2$  or  $t + 3$  due to factors in the firm's internal or external environment, it is difficult to argue that the auditor has made a GCO error. We are grateful to the reviewers of this paper for raising this point, and the paper is written under our own responsibility.

**Table 9.** Placebo test (putting *TIME* forward).

	<i>GCO</i>	<i>TYPE II</i>	<i>TYPE II</i>	<i>TYPE II</i>	<i>TYPE I</i>	<i>TYPE I</i>	<i>TYPE I</i>
	Full sample	Full sample	FAIL = 1	GCO = 0	Full sample	FAIL = 0	GCO = 1
(1) Keep all the sample, shifting <i>TIME</i> forward to 2013							
<i>TIME</i>	-0.149 (-1.29)	-0.113 (-0.33)	0.216 (0.46)	-0.202 (-0.62)	-0.171 (-1.45)	-0.112 (-0.92)	0.000 (0.00)
<i>Control</i>	Control	Control	Control	Control	Control	Control	Control
<i>N</i>	12 565	11 440	140	10 800	12 565	12 404	714
<i>Chi2</i>	1500.572***	293.693***	54.087***	299.853***	1141.815***	1429.653***	77.006***
(2) Keep all the sample, shifting <i>TIME</i> forward to 2014							
<i>TIME</i>	0.064 (0.61)	0.082 (0.28)	-0.146 (-0.30)	0.086 (0.29)	0.010 (0.09)	0.105 (0.95)	-0.044 (-0.28)
<i>Control</i>	Control	Control	Control	Control	Control	Control	Control
<i>N</i>	12 565	11 440	140	10 800	12 565	12 404	714
<i>Chi2</i>	1498.067***	281.581***	51.022***	292.794***	1117.525***	1425.303***	77.153***
(3) Only keep samples before the change of audit standards, shifting <i>TIME</i> forward to 2013							
<i>TIME</i>	-0.177 (-1.21)	0.340 (0.95)	0.490 (1.10)	0.195 (0.58)	-0.285* (-1.80)	-0.155 (-1.00)	-0.095 (-0.44)
<i>Control</i>	Control	Control	Control	Control	Control	Control	Control
<i>N</i>	6 934	6 093	75	5 846	6 934	6 856	237
<i>Chi2</i>	923.161***	167.653***	22.830***	196.517***	612.951***	849.443***	38.860***
(4) Only keep samples before the change of audit standards, shifting <i>TIME</i> forward to 2014							
<i>TIME</i>	0.035 (0.24)	0.677** (2.16)	0.756 (1.28)	0.626** (2.03)	-0.163 (-1.03)	0.054 (0.36)	-0.231 (-1.07)
<i>Control</i>	Control	Control	Control	Control	Control	Control	Control
<i>N</i>	6 934	6 093	75	5 846	6 934	6 856	237
<i>Chi2</i>	927.996***	164.659***	20.558**	201.925***	607.713***	858.935***	37.661***

\*\*\*, \*\*, \* represents 1%, 5%, or 10% significance, respectively. The z values are in parentheses.

assume that the change in auditing standards occurred in 2013 or 2014 (refer to the approach of Xu and Kalelkar (2020)). Second, we only keep the sample before the change in auditing standards, and then assume that the change in auditing standards occurred in 2013 or 2014. The results are shown in Table 9.

Table 9 shows that if we hold the sample constant and front-load the timing of audit standard changes, the coefficient of the *TIME* variable is not significant, i.e. there is no significant change in the frequency of auditors issuing GCOs, Type I errors, or Type II errors. If we only take the samples from 2011 to 2016, that is, before the implementation of the new auditing standards, the coefficient of *TIME* is significant in a few models, but the result is contrary to the above: Type II errors rise and Type I errors fall. This further illustrates that the conclusions of this paper are not caused by a time trend. Rather, it is because of the implementation of the 2016 new auditing standards.

### 6.3. Placebo test: examining modified audit opinions due to non-going concern issues

To further confirm that the implementation of the new auditing standards resulted in an increase in GCO, we examined whether qualified or modified audit opinions unrelated to going-concern issues also increased at the same time after the new auditing standards. If yes, the increase in GCO may be due to other factors and not necessarily the impact of the new auditing standards. If only GCOs increase but qualified or modified audit opinions unrelating to going concern do not increase,

**Table 10.** Qualified (adverse, disclaimer of) opinion or modified audit opinion unrelating to going concern.

	<i>Opinion_nonGCO</i>	<i>MAO_nonGCO</i>
<i>TIME</i>	-0.261 (-1.48)	-0.374*** (-3.47)
<i>Control</i>	Control	Control
<i>N</i>	12 565	12 565
<i>Chi2</i>	175.961***	1782.801***
Marginal Effect of <i>TIME</i>	-0.065	-0.012***
(z)	(-1.48)	(-3.46)

\*\*\*, \*\*, \* represents 1%, 5%, or 10% significance, respectively. The z values are in parentheses.

this would further support our opinion that the implementation of the new auditing standards has resulted in auditors issuing more GCOs. We construct two special variables: (1) *Opinion\_nonGCO*, which equals one if the audit opinion is a qualified (adverse, disclaimer of) one and the auditor has not issued a GCO, and zero otherwise; (2) *MAO\_nonGCO*, which equals one if the audit opinion is modified audit opinion (including both qualified (adverse, disclaimer of) opinion and non-qualified (adverse, disclaimer of) opinion with emphasis of matter paragraph) and the auditor has not issued a GCO, and zero otherwise. We then changed the dependent variable in Table 5 from GCO to the two variables mentioned above and the results are shown in Table 10.

The results in Table 10 show that after the new auditing standards, the number of qualified (adverse, disclaimer of) opinions unrelating to going concern decreased, although not significantly, and the number of modified audit opinions unrelating to going concern decreased significantly. In terms of marginal effects, *MAO\_nonGCO* decreased by 1.2% after the implementation of the new auditing standards. This indicates that qualified (adverse, disclaimer of) audit opinions or modified audit opinions unrelating to going concern decreased after the implementation of the new auditing standards. Only GCOs experienced an increase.

#### 6.4. Other macroeconomic environment changes

Raghunandan and Rama (1995) examined the effect of the US Statement on Auditing Standards (SAS) No. 59 on the auditor's issuance of GCOs as well as GCO Type II errors. They also had only one explanatory variable, *TIME*. The paper pointed out that there would be other macroeconomic factors that increased the probability of corporate bankruptcy after the implementation of the new auditing standards and thus increased the frequency of auditors issuing GCO. To this end, they used a sample of all listed companies to examine the change in the probability of corporate bankruptcy before and after the implementation of the new standards, and found that the numbers of bankrupt companies before and after were 123 and 120, respectively, with no significant change. Drawing on Raghunandan and Rama (1995), we collected business failure data for all A-share listed companies (31,031 observations) over the period 2011–2020. The data shows that prior to the implementation of the new auditing standards, there were 91 observations of business failures; after the implementation of the new auditing standards, there were 97

business failures. The chi-square test value for *TIME* and *FAIL* was 0.607, which was statistically insignificant. This indicates that there are no macroeconomic factors that increase the overall probability of business failure and thus cause auditors to be more inclined to issue a GCO.

### 6.5. GCO and auditing firm switches following the new auditing standards

As mentioned in the derivation of the hypothesis, the new auditing standards reduce the cost of Type I errors by refining the guidance on going-concern issues, making it less likely that a client switches auditors in exchange for a non-GCO. We next empirically examine the relationship between GCO and auditing firm switches following the implementation of the new auditing standards. We designed the following model:

$$Switch = a + a_1TIME + a_2GCO + a_3TIME * GCO + Control + \varepsilon \quad (4)$$

where,  $a_2$  of Equation (4) represents the relationship between GCO in the previous year and auditing firm switch in the current year: if  $a_2$  is significantly positive, it indicates the existence of audit opinion shopping of GCO.  $a_3$  represents the change in audit opinion shopping after the new auditing standards: if  $a_3$  is significantly negative, it indicates that the new auditing standards have reduced the audit opinion shopping of GCO. Referring to the existing literature (Liu & Li, 2013; Zhang et al., 2012), we control for firm size, *ROA*, asset-liability ratio, management turnover, the absolute value of discretionary accruals based on the modified Jones model, ownership concentration, and *Big 4*. Similarly, we include *Opinion* to control opinion shopping of qualified (adverse, disclaimer of) opinions. The results in Table 11 show that the coefficient of *GCO* is significantly positive (0.525,  $z = 3.89$ ) and significant at the 1% level, which indicates that there is a significantly higher probability of clients changing auditors in the following year after receiving a GCO and that there is going-concern opinion shopping behavior. The coefficient on *TIME* is not significantly negative, but the interaction term of *GCO* and *TIME* is significantly negative ( $-0.288$ ,  $z = -1.75$ ), i.e. the new auditing standards reduce the probability that a client will switch auditing firms after the auditor issues a GCO. This result further supports our view that the cost of GCO Type I errors has decreased following the implementation of the new auditing standards.

**Table 11.** GCO and auditing firm switches.

	<i>Switch</i>
<i>TIME</i>	-0.017 (-0.33)
<i>GCO</i>	0.525*** (3.89)
<i>TIME</i> * <i>GCO</i>	-0.288* (-1.75)
<i>Control</i>	<i>Control</i>
<i>N</i>	12 308
<i>Chi2</i>	445.717***

\*\*\*, \*\*, \* represents 1%, 5%, or 10% significance, respectively. The  $z$  values are in parentheses.

We further considered the relationship between the locations of GCO and auditing firm switches. The GCO dummy was divided into two dummy variables by location: *Location 1&2* and *Location 3*. The former indicates that the GCO was issued at location 1 or location 2, and the latter indicates that the GCO was issued at location 3. The results show that firstly, the coefficient for *Locations 1&2* is significantly positive while that for *Location 3* is not significant, suggesting that it is the GCOs issued in the matter paragraphs that trigger opinion shopping rather than the GCOs forming qualified (adverse, disclaimer of) opinions; or that only GCOs issued in the matter paragraphs have room for opinion shopping. Secondly, the coefficient of the interaction term between *TIME* and *Location 1&2* is significantly negative, meaning that the probability of a client switching auditing firms after the auditor issues a GCO in the matter paragraphs decreases significantly after the new auditing standard. These results confirm again that the results of this paper are related to the disclosure locations of GCOs.

### 6.6. *Could AH firms or non-financially distressed firms be used as a control sample?*

Although we have done the above robustness tests, there remains no control sample to control for changes in the other macro environment during the sample period. Is it possible to use AH firms or non-financially distressed firms as a control sample? AH firms implemented the new auditing standards early in the 2016 financial year. Theoretically, we could use data of AH firms from 2015 and 2016 as an experimental group to analyse the changes in GCOs of AH firms compared to other A-share firms. Alternatively, we could use data from 2016 and 2017, using AH firms as a control group, and compare the change in GCO of other A-share companies to that of AH firms. Since AH firms have implemented early, GCOs of other A-share companies will increase significantly in 2017 in relative terms. However, there were only a few AH firms and fewer AH firms in financial distress, and even fewer GCOs were issued. Over the 10-year sample period of this paper, there were 385 AH firm-years<sup>21</sup> and only 7 were issued a GCO by the auditor. The year distribution is shown in Table 12, which shows that no financially distressed AH firms were issued a GCO by the auditor in 2015, one AH firm was issued a GCO in 2016 and 2017 was the same as 2016. Overall, the new auditing standards have increased the issuance of GCOs for AH firms, from zero to non-zero. However, as there is only one sample observation for  $GCO = 1$  in 2016 or 2017, it is not suitable for using AH firms in the experimental or control samples.

Non-financially distressed firms, while not affected by the new auditing standards, are either less likely to be issued a GCO. As noted in the previous section on sample selection, 98% of GCOs were issued to financially distressed companies. There were 16,184 observations of non-financially distressed firms during the sample period of this paper, but a total of 16 GCOs were issued over the 10-year period. If only 2016 and 2017 are selected for

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<sup>21</sup>The reason we extend the examination period of failure to three years is that in actual cases we find auditors have issued GCOs in advance. For example, Hainan Airlines has received GCOs for three consecutive years of audit reports since 2018; in 2021 Hainan Airlines began its bankruptcy restructuring. Of course, there is the possibility that the period of time is too long and the operational risk characteristics of the client firm have changed. If the operational risk changes in year  $t + 2$  or  $t + 3$  due to factors in the firm's internal or external environment, it is difficult to argue that the auditor has made a GCO error. We are grateful to the reviewers of this paper for raising this point, and the paper is written under our own responsibility.

**Table 12.** Year distribution of AH firm's GCO.

Year	N	GCO = 1	GCO = 0
2011	38	0	38
2012	37	0	37
2013	41	0	41
2014	35	0	35
2015	36	0	36
2016	33	1	32
2017	39	1	38
2018	41	1	40
2019	40	2	38
2020	45	2	43
Total	385	7	378

comparison, only one GCO was issued for each year and non-financially distressed firms are not suitable for calculating the GCO error rate. Therefore, it is either not appropriate for non-financially distressed firms to be used as a control sample.

### 6.7. Auditing firm size and GCOs issuance following the new auditing standards

We examine whether changes in GCOs issuance following the new auditing standards were affected by the size of auditing firms. On the one hand, the larger the audit firm, the higher its reputational costs. The new auditing standards increase the incentive for large firms to issue GCOs by further increasing the auditing firm's reputational costs. On the other hand, large firms originally face a higher cost of Type I errors compared to small firms, as the existing literature suggests that clients are more likely to switch from large firms to small firms when audit standards are raised, or when clients receive modified audit opinions (e.g. Chan et al., 2006; DeFond et al., 2000). The new auditing standards would make large firms more willing to issue GCOs by reducing the cost of Type I errors.

We add the interaction term of *TIME* and *Big4* in the previous Table 5 and the new results in Table 13 show that the coefficient on the interaction term is significantly positive and significant at the 5% level. This suggests that Big 4 issued more GCOs than non-Big 4 after the new auditing standards. However, if we replace the *Big4* variable with the *Top10* (top 10 firms, including the Big 4) and regress Table 5 again, we find that the interaction term between *TIME* and *Top10* is not significant. Therefore, there is a significant difference in GCO issuance between Big 4 and non-Big 4 after the new auditing standards, but the

**Table 13.** Auditing firm size and GCO issuance following the new auditing standards.

	GCO	
	(1) Full sample	(2) Excluding 2020 subsample
<i>TIME</i>	0.212** (2.16)	0.260** (2.34)
<i>TIME*Big4</i>	1.096** (2.25)	1.068** (1.97)
<i>Big4</i>	0.307 (0.77)	0.419 (1.04)
<i>Control</i>	Control	Control
N	12 565	11 102

\*\*\*, \*\*, \* represents 1%, 5%, or 10% significance, respectively. The z values are in parentheses.

difference between Top 10 and non-Top 10 is not significant. Possible explanations are that the reputational costs of Big 4 are more pronounced than those of the domestic firms, or that Big 4 (rather than the large domestic firms) face lower costs for Type I errors.

## 7. Conclusions and implications

Whether an auditor issues a GCO and whether it is issued for an insolvent company is considered as one of the important indicators of audit quality (DeFond & Zhang, 2014; Knechel et al., 2015). However, going-concern audits in China have not received much attention due to the existence of modified audit opinions. The reform of China's auditing standards in 2016 is different from the previous ones in that for the first time, the requirement of a going-concern audit is included in the paragraph 'Auditor's responsibility' of the audit report, and the location of communicating GCO is moved upwards. The reform has greatly enhanced auditors' perceived responsibility for the going-concern audit and has attracted the attention of information users. The new standards also strengthen auditors' substantive responsibility by increasing consideration requirements and communication requirements during the going-concern audit process. Will auditors' going-concern audit change with the implementation of the new auditing standards?

This paper analyzes the issuance and accuracy of GCOs after the 2016 auditing standards reform, using the GCO issuance data of A-share listed companies in financial distress during the period 2011–2020 and the business failure data during the period 2012–2021. The results show that auditors are more likely to issue GCOs after the reform, and Type II errors decrease while Type I errors increase. Further analyses show that the above results are related to the change of GCO location alternatives in audit report after the reform. On the one hand, the new auditing standards increase the auditor's responsibilities for going-concern audits, and on the other hand, they adjust and add the GCO location alternatives, so that auditors have more and prominent GCO location options to attract users' attention and avoid their liabilities and regulation risk without losing clients. In this context, auditors are increasingly willing to communicate less severe going-concern issues in the audit report. Overall, with the implementation of the new auditing standards, auditors are issuing more GCOs, and the adjustment in alternative locations affects the accuracy of GCOs.

The results of this paper have the following two policy implications. First, policymakers need to consider the fact that auditors are managing their own risk, which may interfere with the intended effects of the new auditing standards. The purpose of the issuance and revision of CSA 1324 is to regulate auditor's responsibilities in the going-concern audit and to improve the quality of going-concern audit. Auditors, in turn, are managing their own risk: when a new auditing standard is introduced, auditors adjust their behaviour in response to changes in expected risk. If auditors anticipate an increased risk, their behaviour becomes more cautious: issuing more GCOs and issuing GCOs for clients with not-so-severe going-concern issues. Thus, the intended consequences of the new standards may be compromised in that the accuracy of GCOs is decreased and audit quality is ultimately impaired. Second, because the new auditing standard provides three alternative locations for disclosing GCOs, to avoid auditors' abuse of location selection, we recommend that the application guidance of CSA 1324 clarifies the pre-conditions and requirements for different disclosure locations.

The limitation of this paper is that the main variable is only *TIME* and there is no control sample. AH firms or non-financially distressed firms do not fit into the control sample because they are rarely issued GCOs by auditors. The *TIME* variable may not reflect changes in new auditing standards but represent other macro factors over the same period. This paper attempts to mitigate the problem by, first, further analysing the location change of GCOs, which is less likely to be influenced by other macro environments and more by the revised auditing standards. Second, the placebo tests by shifting *TIME* forward reveal that the original results disappear, suggesting that the results in this paper do not arise naturally due to the passage of time, but are indeed related to the standard changes in 2016. Third, the placebo tests by investigating non-GCO modified audit opinions find that the new auditing standards only increase the frequency of GCOs while the frequency of non-GCO modified audit opinions decreases. This further indicates that the increased frequency of GCOs is not due to other audit circumstances but is indeed related to the new going-concern auditing standards. Finally, by examining the business failures of all listed companies, this paper finds that the probability of business failures before and after the new auditing standard does not increase significantly, which rules out the possibility that other macroeconomic factors make companies more likely to fail and auditors more likely to issue GCOs. Of course, these approaches cannot fully address the problem of omitting macro factors. Thus, the relationship between the new auditing standards and going-concern audits found in this paper may be only correlational, not causal.

Future studies could more effectively analyse whether the auditors abuse the auditing standards by moving some going-concern opinions that should have been in location 2 to location 1, or even moving some that should have been in location 3 to location 2. In fact, GCO in location 1 provides an opportunity to directly observe whether the auditor is misusing auditing standards. According to the application guidance of CSA 1324, going-concern issues that are 'uncertain, but not materially uncertain' can only be communicated in the paragraph 'Key audit matters'. In the sample of 21 GCOs issued at location 1 in this paper, most auditors use the words 'doubtful' or 'uncertainty' when describing going-concern issues in key audit matters, but some auditors in a few samples used the words 'significant doubt' or 'significant uncertainty'. That is, in some cases, auditors placed GCOs with significant uncertainty into location 1, indicating a possibility of misusing the location alternatives permitted by the new auditing standards. This suggests that the going-concern issues communicated in the key audit matters may include not only minor going-concern issues but also serious going-concern issues. However, the current sample size for location 1 is too small to allow for a direct and effective separate regression in this paper. With the gradual increase in the sample size of location 1 (increased to 37 until 2021 and expected to be more in later years), further studies can focus on the GCO at location 1. In addition, future studies may also analyse the economic consequences of changes in GCO issuances and accuracy. An in-depth cost-benefit analysis could be more helpful for standard-setters.

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