

Balance Sheet Conservatism and Audit Reporting Conservatism

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Abstract: Financial reports are prepared on a going-concern (GC) basis rather than a liquidation basis even when companies are highly distressed. This allows distressed companies to report book values of assets that greatly exceed their liquidation values, implying a lack of conservatism in the balance sheet. We argue that auditors issue going-concern opinions in order to warn investors about this lack of balance sheet conservatism. This argument leads to two testable hypotheses. First, for companies that are at risk of bankruptcy, auditors are more likely to issue GC opinions when the book values of assets under the GC assumption are high relative to the expected liquidation values of assets (i.e., when the GC assumption causes the balance sheet to lack conservatism). Second, for companies that enter bankruptcy, the issuance of a prior GC opinion has predictive information content with respect to the wedge between the book values of assets and the future liquidation values of those same assets. Our results strongly support both hypotheses. The findings are important because they indicate that conservative audit reporting helps to compensate for a lack of conservatism in the balance sheet, which arises because the GC assumption permits the book values of assets to exceed their liquidation values.

Keywords: conservatism, going concern audit opinions, book values, liquidation values

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1. INTRODUCTION

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Under conservative accounting, book values should reasonably proxy for liquidation values, thereby allowing lenders to better monitor the borrower's ability to repay (Watts, 2003). However, financial reports are generally prepared on a going-concern (GC) basis rather than a liquidation basis. This gives distressed companies considerable leeway to report book values of assets that exceed their liquidation values. We argue that conservative audit reporting helps to compensate for this lack of conservatism in the balance sheet. In particular, auditors are more likely to issue GC opinions when the book values of assets are high compared with their expected liquidation values.

This interaction between balance sheet conservatism and GC reporting has not been previously discussed or empirically examined in the literature. Instead, prior studies examine whether auditors' GC opinions provide a cautionary warning to investors about the *probability* of bankruptcy. Our study is different because we focus on the expected *outcome* of bankruptcy rather than the likelihood of bankruptcy taking place. That is, we focus on the assets' liquidation values and the differences between these liquidation values and the assets' reported book values under the GC assumption.¹

Our first hypothesis is that auditors issue GC opinions when the liquidation values of assets are expected to be low relative to their book values. In short, if two companies have the same probability of bankruptcy and identical liquidation values, then a GC opinion is more likely to be issued to the company whose assets have higher book values. This first hypothesis takes an auditor perspective in explaining the auditor's decision to issue a GC opinion. Our second hypothesis takes the perspective of financial statements users. In particular, we test whether the issuance of a GC opinion has incremental information content for predicting the future realization rate (where the future realization rate is the ratio of future

¹ In this study, we use the following terms interchangeably when we refer to the proceeds that are raised from asset sales during bankruptcy: realizable values, recoverable values, and liquidation values. As explained later in the paper, bankruptcy in our empirical setting always results in a company's assets being sold to new owners.

liquidation value to book value). If the GC opinion signals an auditor's private information about the lack of balance sheet conservatism, we expect the issuance of a GC opinion to predict lower future realization rates among the companies that file for bankruptcy.

To test the first hypothesis, we measure the expected liquidation values of assets as of the date that the auditor issues the audit report (i.e., before it is known whether the company will enter bankruptcy). Prior literature suggests the liquidation value of an asset is contingent on the asset's specificity and the ease with which the asset can be put to use by a potential buyer. Intangible assets such as patents and goodwill have relatively low liquidation values because they are highly specific to the original owner and are difficult to sell (Skinner, 2008). Similarly, inventory is less liquid and harder to sell than other types of current assets such as accounts receivable (Stickney and Weil, 1994; Berger et al., 1996). In the other direction, land and property can be put to alternate uses by potential buyers and therefore have relatively high liquidation values (Ronen and Sorter, 1973; Williamson, 1988; Shleifer and Vishny, 1992). Therefore, we use these asset characteristics to estimate a company's expected liquidation value.

To estimate the realization rates for each type of asset, we require data on the book values and the liquidation values for each type of asset sold during bankruptcy. In the US it is extremely difficult to obtain such data (e.g., Thorburn, 2000). In the UK, however, data are readily available on both the liquidation values and the book values of assets sold in bankruptcy. We therefore estimate the realization rates using a sample of bankrupt companies in the UK. Consistent with prior studies, we find that intangibles have the lowest realization rate (8.9%) while land has the highest realization rate (88.4%). The realization rates are 45.1% for other fixed assets, 47.7% for inventory, and 57.2% for other non-cash current assets. The fact that these realization rates are less than 100.0% confirms our maintained

assumption that a substantial wedge exists between book values (which are prepared on a going concern basis) and the liquidation values of the same assets.

Next, we apply these estimated realization rates to the assets held by companies that are at risk of bankruptcy. Under our first hypothesis, we expect that an auditor is more likely to issue a GC opinion if the book value of a distressed company's assets is high relative to the expected liquidation value of the same assets. In other words, an auditor is more likely to issue a GC opinion when a distressed company's balance sheet lacks conservatism. Consistent with this prediction, our models show that GC opinions are more likely to be issued to companies whose book values are high relative to their liquidation values. This finding is obtained for distressed companies in the US as well as in the UK. That is, auditors in both countries issue GC opinions when the balance sheet of a distressed company is less conservative.

Further, we show that our measure of the expected realization rate is not simply a proxy for the likelihood of bankruptcy. In particular, we find no significant relationship between the expected realization rate and the incidence of bankruptcy. Therefore, the highly significant negative relation between the expected realization rate and GC opinions is not attributable to companies with lower expected realization rates having a higher likelihood of bankruptcy. Instead, our results are consistent with auditors issuing GC opinions when the book values of assets reported under the GC assumption are high relative to the assets' liquidation values.

Our second hypothesis is that the GC opinion provides incremental information that can help financial statement users to predict the future realization rate. To the extent that auditors are privately informed about the likely proceeds from asset realizations, we expect the GC opinion to convey an informative signal of the future realization rate, even after controlling for the public information contained in the expected realization rate. We find evidence in support of this hypothesis. We conclude that the GC audit opinion signals useful information

to financial statement users about the wedge between the book values of assets and the amounts that would be raised if the assets are later sold in bankruptcy.

This study contributes to two streams of literature. First, we contribute to the conservatism literature by examining the interplay between audit reporting and conservatism in the balance sheet.² Prior studies examine the way in which conditional conservatism in the income statement helps to protect lenders from downside risk (Holthausen and Watts, 2001; Ahmed et al., 2002; Watts, 2003; Beatty, et al. 2008; Wittenberg-Moerman, 2008; Zhang, 2008; Nikolaev, 2010; Armstrong et al., 2010; Sunder et al., 2011). Our study is different because we examine the interplay between balance sheet conservatism and conservative audit reporting (i.e., GC audit opinions). Our results imply that conservative audit reporting helps to compensate for a lack of conservatism in the balance sheet, which arises when the book values of a distressed company's assets exceed their liquidation values because book values are reported under the GC basis for accounting rather than the liquidation basis.

Second, our paper adds to the auditing literature on GC reporting. Prior studies show that auditors issue GC opinions in order to warn investors that a company faces a high probability of bankruptcy.³ Our study shows that GC opinions perform a second economic function beyond warning about the probability of bankruptcy. In particular, GC opinions signal useful information about the outcome of bankruptcy; i.e., the magnitude of the wedge between book values and liquidation values. Further, we show that future researchers can easily control for balance sheet conservatism by exploiting information on the different

² Beaver and Ryan (2005) examine the interactions between conditional conservatism (i.e., the asymmetric response of earnings to positive and negative news) and unconditional conservatism (i.e., understatements of the book values of assets relative to their market values). Our focus is on the interaction between GC reporting and unconditional conservatism as the book values of assets are affected by the GC basis for financial reporting. However, we acknowledge that balance sheet conservatism may not be independent of conditional conservatism. Sunder, Sunder and Zhang (forthcoming) point out that their measure of balance sheet quality (conservatism) is a combined effect of unconditionally conservatism accounting methods and the accumulated effects of timely loss recognition in current and prior periods.

³ For example, see Mutchler (1985), Hopwood et al. (1989), Hopwood et al. (1994), Foster et al. (1998), Lennox (1999), Willenborg and McKeown (2001), Butler, Leone, and Willenborg (2004), Geiger and Rama (2006), Bruynseels and Willekens (2012), and Kaplan and Williams (2012).

categories of assets in the balance sheet. In demonstrating that GC reports perform a second economic function by warning investors about bankruptcy outcomes, our study helps to address the concern of Healy and Palepu (2001) that there is a “paucity of evidence on the value of auditor opinions to investors.”

The remainder of this paper is as follows. Section 2 discusses why and how auditors can alert financial statement users to a lack of conservatism in the balance sheet, where the lack of conservatism arises due to the company’s application of the GC assumption. Based on these arguments, Section 2 provides hypotheses regarding the auditor’s decision to issue a GC opinion (H1) and the usefulness of the GC opinion for predicting the company’s future realization rate in bankruptcy (H2). Section 3 presents the research designs for H1 and H2. Our main results are reported in Section 4. Importantly, Section 4 shows that there is no significant association between the expected realization rate and the likelihood of bankruptcy. This helps to rule out an alternative explanation that auditors issue GC opinions to companies with low expected realization rates because such companies are more likely to file for bankruptcy. Section 5 concludes.

2. HYPOTHESES DEVELOPMENT

(i) The going-concern basis for financial reporting

Under the GC basis for financial reporting, a company’s financial statements are prepared assuming that the company has no intention or necessity to liquidate its assets within the foreseeable future. The GC basis is used for preparing financial statements even when companies are highly distressed; i.e., when there is a high likelihood that the GC assumption will prove to be false. In contrast, the liquidation basis is reserved only for the situation in which liquidation is inevitable or imminent.⁴ Thus, there is a general presumption favoring

⁴ IFRS states that an entity should prepare financial statements on the going concern basis of accounting “unless management either intends to liquidate the entity or to cease trading, or has no realistic alternative but to do so”

the GC basis for financial reporting even when there is substantial doubt about the validity of the GC assumption, and this is despite the fact that the GC assumption results in less conservative accounting.

Accounting academics in the late 1960s were critical of the presumption that the financial statements should generally be prepared on a GC basis. They argued instead that a company should use the basis that is most appropriate for its situation (Sterling, 1968; Fremgen, 1968). Interestingly, Arthur Andersen issued a memorandum in 1960 rejecting the presumption that the financial statements should be prepared on a GC basis (Arthur Andersen 1960). Andersen argued that financially distressed companies are apt to abuse the GC assumption by downplaying the risk that their assets will be subject to a forced sale, thereby causing the book values of assets to be overstated. Despite these early criticisms and the potential for non-conservative reporting in the balance sheets of distressed companies, the GC assumption has formed the basis for financial reporting over the past 50 years.

(ii) *Book values versus liquidation values*

While the book values of assets are reported under the GC assumption, the liquidation values of assets reflect the prices that would be obtained from a forced sale. The asset sales that accompany forced liquidations are usually associated with substantial price discounts relative to the voluntary sales of similar assets outside of bankruptcy (Pulvino, 1999). In turn, this means that the liquidation values of assets are typically much less than their book values.

(paragraph 25 of IAS 1, *Presentation of Financial Statements*). The Financial Accounting Standards Board (AU 2013-07) states that a company is required to use the liquidation basis “when liquidation is imminent. Liquidation is imminent when the likelihood is remote that the entity will return from liquidation and either (a) a plan for liquidation is approved by the person or persons with the authority to make such a plan effective and the likelihood is remote that the execution of the plan will be blocked by other parties or (b) a plan for liquidation is being imposed by other forces (for example, involuntary bankruptcy).” FASB’s use of the term *imminent* is consistent with the guidance on the liquidation basis of accounting in the AICPA’s Codification of Statements on Auditing Standards Section AU 9508, *Reports on Audited Financial Statements: Auditing Interpretations of Section 508*, and Statement of Position 93-3, *Rescission of Accounting Principles Board Statements*.

Consistently, we show that liquidation values are typically only 50% of reported book values in our sample (Table 1). Thus, the balance sheets of distressed companies often lack conservatism when viewed from a liquidation perspective.

In addition to book values being reported on a GC basis rather than a liquidation basis, the managers of poorly performing companies also have incentives to avoid writing down the book values of assets to their liquidation values. This is because asset write-offs generate accounting losses that can be detrimental to managerial welfare (Ely and Waymire, 1999; Watts, 2003; Beatty and Weber, 2006; Ramanna and Watts, 2012). Managers have especially strong incentives to hide bad news when they face a high probability of being replaced due to poor performance (Kothari et al., 2009, 2010). Although lenders have a preference for conservative reporting, and this preference has traditionally been embedded within accounting standards, the managers of failing companies do not always report conservatively (DeFond and Jiambalvo, 1994; Sweeney, 1994; Dichev and Skinner, 2002; Rosner, 2003). Thus, we expect the book values of assets reported under the GC assumption to be higher, on average, than their liquidation values.⁵

(iii) Hypotheses development

Auditing standards recognize that there is likely to be a difference between the book values of assets reported under the GC assumption and the realizable values of the same assets if they

⁵ A wedge between book values and liquidation values can exist even when book values are reported at the lower of cost and net realizable value. This is because net realizable values (and fair values) are reported under the GC assumption and these GC values reflect the expected proceeds from *voluntary* sales of assets taking place in the *normal course of business*. In contrast, the realized values of assets in bankruptcy are discounted due to the fact that assets are sold involuntarily and quickly. Chambers (1966) highlights the important distinction between a forced liquidation that occurs in bankruptcy and the voluntary sale of the same asset outside of bankruptcy. In a forced liquidation, the initiative rests with the company's creditors and assets are sold under duress at prices that are often disadvantageous to the enterprise as a whole. Outside of bankruptcy, the initiative rests with the shareholders (or their representatives, management) and assets are sold in the ordinary course of business at relatively favorable prices.

are subjected to a forced sale. This point is mentioned in the opening paragraph of Statement of Auditing Standard 34:

“When the continued existence of an entity is imperiled, there is heightened concern about the recoverability and classification of recorded asset amounts.”

SAS 34 was superseded by SAS 59 in 1988 but the references to asset recoverability continue in the more recent standard. Paragraph 10 of SAS 59 states that when there is substantial doubt about the company’s ability to remain a going-concern, the auditor should:

“consider the possible effects on the financial statements and the adequacy of the related disclosure. Some of the information that might be disclosed includes [...] information about the recoverability or classification of recorded asset amounts.”

Further, the template language used in the GC opinion includes the following wording that pertains to the difference between going-concern accounting and liquidation accounting:

“The accompanying financial statements have been prepared assuming that XYZ Company will continue as a going-concern. As discussed in Note [##] to the financial statements, XYZ Company has suffered recurring losses from operations and has a net capital deficiency that raise substantial doubt about the company’s ability to continue as a going-concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty” (emphasis added).

Auditing standards do not explicitly require auditors to consider the magnitude of the wedge between book values and liquidation values when deciding whether to issue a GC opinion. However, it is clear from the above quotes that auditors should implicitly take the wedge into account. In particular, auditing standards note that one purpose of the GC opinion is to warn financial statement users about the existence of a wedge between the GC values of assets and their liquidation values. In addition, by alerting investors to the importance of the GC assumption, auditors can protect themselves from litigation and reputation impairment in the event that bankruptcy occurs and investors suffer losses due to shortfalls between the liquidation values of assets and their book values reported under the GC assumption.

A fundamental task of an auditor is to assess whether managers' estimates of asset impairments and write-offs are reasonable (e.g., SAS 122, ISA 540). To assess this, the auditor is required to evaluate whether it is possible for a financially distressed company to avoid bankruptcy by selling off some of its assets. Therefore, an auditor is likely to have some idea of how much could be raised if the company's assets become subject to a forced sale. This in turn means that an auditor is likely to have some knowledge of the magnitude of the wedge between book values and liquidation values.

Our arguments can therefore be summarized as follows: 1) auditors would have some idea of the magnitude of the wedge, and 2) the magnitude of the wedge is likely to affect their decision to issue a GC opinion.

Our first hypothesis takes the perspective of the auditor as it focuses on the auditor's decision to issue a GC opinion. If an auditor believes that the book values of a company's assets exceed their liquidation values, then the GC assumption becomes more critical to the fair presentation of the financial statements. In this situation, an auditor has a stronger incentive to warn investors by drawing their attention to the fact that the book values of assets are valued on a GC basis rather than a liquidation basis. This argument leads to the following hypothesis about the GC reporting decision:

H1. For companies that are at risk of bankruptcy, auditors are more likely to issue GC opinions when there is a larger wedge between the book values of assets and the expected liquidation values of assets.

We note that H1 is expected to hold for companies that face a significant risk of bankruptcy. We therefore expect H1 to hold for distressed companies but not non-distressed companies.

Our second hypothesis takes the perspective of the lender as it focuses on whether the issuance of a GC opinion signals useful information about the wedge between book values

and liquidation values. Lenders need to distinguish when book values are greater than liquidation values in order to infer how much the assets would be worth in the event of a forced sale. We argue that there is significant scope for auditors to disclose their private information about future liquidation values through their decision on whether to issue a GC opinion. For example, an auditor may anticipate that a company's intangible assets would be difficult to sell, or the receivables would be difficult to collect, or the machinery would have little outside value. To the extent that an auditor has useful *private* information on future liquidation values, we expect that this information can be signaled to lenders through the audit opinion. We therefore posit that the GC opinion is an informative leading indicator of the wedge between book values and future liquidation values in the event that a company files for bankruptcy.

H2. For companies that enter into bankruptcy, the issuance of a prior GC opinion predicts a larger wedge between the book values and liquidation values of assets.

It is far from obvious that audit opinions actually serve the economic function we postulate in our two hypotheses above. This is because of two reasons. First, the prior literature on audit reporting posits that the GC opinion should be an informative predictor about the *likelihood* of bankruptcy. In contrast, we predict that the GC opinion is also an informative predictor of the realization rate, conditional on the occurrence of bankruptcy. Second, our hypotheses suggest that auditors issue GC opinions when balance sheets lack conservatism. In other words, we seek to establish a link between GC opinions and the company's financial reporting in the balance sheet. In contrast, prior studies examine whether there is a relation between GC opinions and earnings management in the income statement (Butler et al. 2004).

3. RESEARCH DESIGNS FOR H1 AND H2

(i) Timelines

Our first hypothesis, H1, is illustrated in Figure 1. The timeline begins with the book values reported by the company as of the balance sheet date. The auditor then decides whether to issue a GC opinion, taking into account the wedge between the book values of assets and the expected liquidation values of assets. We argue that the auditor can form an expectation of the liquidation values of assets using information on different asset categories. For example, the realization rate is expected to be low (high) if intangibles (land) comprise a large proportion of total assets.

At the date of the audit report, the auditor does not know for sure whether the company will enter bankruptcy or survive. Because the bankruptcy outcome is unknown at the audit report date, we test H1 using distressed companies that survive as well as distressed companies that eventually file for bankruptcy. Moreover, because the realization rates are not observed for companies that survive, we require a proxy for the expected asset recovery rate. Our choice of proxy is based on the company's asset structure, as explained later in this Section.

[INSERT FIGURE 1 HERE]

Whereas H1 focuses on the auditor's GC reporting decision, H2 takes the perspective of the financial statement user and asks whether the GC opinion is useful for predicting the future realization rate. The timeline for H2 is shown in Figure 2, beginning with the issuance of the audit report. Subsequently, the company enters bankruptcy and the insolvency practitioner discloses the book values of assets as of the date that the company enters bankruptcy. Bankruptcy ends once all the assets are sold and the proceeds are distributed to claimants. The insolvency practitioner then discloses the amounts realized from the sales of assets. Under H2, we predict that the prior GC audit report is a leading indicator of the wedge

between the book values of assets (as of the bankruptcy date) and their subsequent realized values (once all the assets have been sold). The implication of H2 is that the GC opinion provides a useful warning to financial statement users that realization rates are likely to be low (i.e., the liquidation values of assets are likely to be much less than their book values).

(ii) Asset specificity and a company's expected realization rate

To test H1, we require a measure of the company's expected realization rate, where the expectation is formed using information that is available when the auditor makes the GC reporting decision (see Figure 1). Following Berger et al. (1996), we model the expected realization rates of different asset classes, where the realization rates depend on asset specificity (e.g., intangibles, land) as well as the accounting rules that underpin book value calculations including the rules on asset impairments. The dependent variable is the ratio of liquidation value to book value; i.e., the realization rate $\%REAL$. Berger et al. (1996) estimate the realization rates of three categories of assets, namely fixed assets, inventory, and other current assets. Our analysis is similar except that we split fixed assets into three sub-categories; namely intangibles, land and property, and other fixed assets. Thus, we estimate the realization rates of five categories of asset: intangibles, land and property, other fixed assets, inventory, and other non-cash current assets. (The realization rate for cash is 100% and so does not need to be estimated (Berger et al. 1996)).⁶

We expect cross-sectional variation in the magnitude of the wedge between book values and liquidation values because different types of assets have different realization rates. Intangible assets are highly specific to the original owner and there is high information asymmetry between the original owner and a potential buyer regarding the value of

⁶ Similar to Berger et al. (1996), our data sources do not allow us to separately measure the proceeds from each asset category (see the Appendix). Therefore, the realization rates for different asset categories have to be estimated using regression analysis.

intangibles (Ely and Waymire, 1999). Therefore, intangibles have low realization rates (Leftwich 1983; Skinner 2008).⁷ In the other direction, land has low asset specificity as it can be put to different uses by outsider purchasers. Therefore, land has a relatively high realization rate (Ronen and Sorter, 1973; Williamson, 1988; Shleifer and Vishny, 1992). Further, there is evidence that inventory is less liquid and harder to sell compared with other types of non-cash current assets such as accounts receivable (Stickney and Weil, 1994; Berger et al., 1996).

The following model allows us to estimate the realization rates for the following asset categories: (1) land and property, (2) intangibles, (3) other fixed assets, (4) inventory, and (5) other non-cash current assets using OLS regression.

$$\%REAL = \alpha_1 \%LAND + \alpha_2 \%INTANG + \alpha_3 \%OFA + \alpha_4 \%INVEN + \alpha_5 \%OCA + v \quad (1)$$

where:

$\%REAL$ = LIQ divided by $BOOK$. The LIQ variable equals the proceeds from selling the company's total non-cash assets during bankruptcy. The $BOOK$ variable equals the book value of total non-cash assets reported under the GC assumption. Thus, $\%REAL$ is the company's realization rate for non-cash assets.

$\%LAND$ = the book value of land and property assets, divided by $BOOK$.

$\%INTANG$ = the book value of intangible assets, divided by $BOOK$.

$\%OFA$ = the book value of other fixed assets (excluding land, property, and intangibles) divided by $BOOK$.

$\%INVEN$ = the book value of inventory, divided by $BOOK$.

⁷ Leftwich (1983) finds that intangibles such as goodwill are generally excluded from the calculation of net assets in debt contracts. Before the Securities Acts, intangible assets were often written off the balance sheet as soon as possible, despite the fact that managers were allowed to capitalize a broad range of intangibles (Ely and Waymire, 1999). Many financial statement users, especially lenders, were seen as preferring "clean" balance sheets that were free of intangibles (Lagerquist, 1922; Saliers, 1923).

$\%OCA$ = the book value of other current assets (excluding inventory and cash), divided by $BOOK$.

Equation (1) is estimated without an intercept because, by construction, the five asset categories sum to one.

The OLS coefficients in equation (1) equal the estimated realization rates for each type of asset. We use these coefficients to compute the expected realization rate for the company as a whole including cash. Specifically, a company's expected realization rate equals:

$$E(\%REAL) = \hat{\alpha}_1 \%LAND + \hat{\alpha}_2 \%INTANG + \hat{\alpha}_3 \%OFA + \hat{\alpha}_4 \%INVEN + \hat{\alpha}_5 \%OCA + \%CASH$$

We follow Berger et al. (1996) by assuming a realization rate of 100% for cash, i.e., the $\%CASH$ variable has a weighting of one when we compute the expected realization rate ($E(\%REAL)$).

(iii) Tests of H1

We test H1 by estimating the following logit model of GC reporting.

$$Prob(GC = 1) = F(\delta_0 + \delta_1 E(\%REAL) + CONTROLS + \varepsilon) \quad (2)$$

The dependent variable in equation (2) equals one if the auditor issues a GC opinion, and zero otherwise. The treatment variable ($E(\%REAL)$) is the expected realization rate, which is calculated using the coefficient estimates in equation (1). Under H1, auditors are less likely to issue GC opinions when the expected realization rate is high (i.e., $\delta_1 < 0$).

It is important to control for the effects of financial distress on GC reporting because auditors consider the probability of bankruptcy as well as the likely outcome of bankruptcy. Prior studies find that auditors are more likely to issue GC opinions when companies are small ($Ln(TA)$), have high leverage (LEV), low profitability (ROA), losses in the previous

year (*LOSS*), low operating cash flows (*OPCF*), low liquidity (*LIQUIDITY*), are financially distressed (*ZSCORE*), young (*AGE*), have higher systematic risk (*BETA*), lower investments (*INVESTMENT*), are less likely to raise new finance (*FINANCE*), and have greater accruals (*ACCRUALS*) (Francis and Krishnan, 1999; Reynolds and Francis, 2000; DeFond et al., 2002; Butler et al., 2004; Francis and Yu, 2009; Hope and Langli, 2010; Reichelt and Wang, 2010; Chen et al., 2013).⁸ We also control for the size of the company's auditor (*BIG*) because the clients of Big 4 auditors are less financially distressed and thus are less likely to receive GC opinions (DeFond and Lennox, 2011). Finally, we control for the company's market performance as reflected in its yearly stock return (*FISCAL_RET*) and return volatility (*STDEV_RET*). Many of the companies that receive GC opinions lack stock market data and, to avoid dropping these companies from our sample, we interact the stock market-based variables (*FISCAL_RET*, *STDEV_RET*, *AGE* and *BETA*) with an indicator variable, *D*, that takes the value one if returns data are available. Nonetheless, our inferences are unchanged if we drop the companies that lack returns data. To mitigate outlier problems, the unbounded continuous variables are winsorized at the 1st and the 99th percentiles, although untabulated results yield very similar inferences when we do not winsorize.⁹

The auditor's decision to issue GC opinions may be affected by the accounting rules for asset impairments because these rules affect how close or far the book values of assets are from the liquidation values. For example, under IAS 36 impairment accounting, the book values are re-measured to the higher of value in use (VIU) or fair value less costs to dispose (FVLCD). Although impairment accounting does not assume a forced liquidation of assets,

⁸ While the current ratio is often used in studies of bankruptcy and GC reporting, some studies instead use the quick ratio, i.e., the ratio of cash and cash equivalents to current liabilities. In untabulated results we find that measuring liquidity using the quick ratio in addition to, or instead of, the current ratio has no impact on our findings.

⁹ Our intention in estimating equation (2) is not to explain the adjustment in GC reporting from the previous year to the current year. Therefore, we do not include a lagged dependent variable (GC_{it-1}) in equation (2). However, this research design choice does not affect our inferences. The untabulated results for our treatment variable ($E\%(REAL)$) are very similar if we include a control for lagged GC reports.

VIU or FVLCD will likely affect the wedge between book values and liquidation values and hence the auditor's GC reporting decision. Eq. (2) includes year fixed effects which help to control for the introduction of IAS 36 and any other time-varying factors that potentially affect GC reporting decisions.

(iv) *Tests of H2*

We test H2 by estimating the following OLS model of the unexpected realization rate.

$$UE(\%REAL) = \beta_0 + \beta_1 GC + CONTROLS + u \quad (3)$$

The dependent variable is the unexpected realization rate ($UE(\%REAL)$) which is defined as the actual realization rate minus the expected realization rate, i.e., $\%REAL - E(\%REAL)$. Under H2, we expect GC opinions to signal lower $UE(\%REAL)$. Therefore, we predict a significant negative coefficient on the GC variable in equation (3). Evidence supporting this prediction would imply that the GC opinion is an informative leading indicator of the wedge between book values and future liquidation values. In other words, we are testing whether GC opinions are *incrementally* informative, beyond the information that is publicly available on asset specificity. (In untabulated tests, we obtain similar inferences when we use an alternative dependent variable equal to $\%REAL$ and control for $E(\%REAL)$ on the right side of the regression equation)

Equation (3) controls for other factors that affect the selling prices of assets in bankruptcy. Thorburn (2000) finds that asset realizations in Sweden are higher when a larger proportion of the liabilities are secured on the bankrupt companies' assets. This is consistent with secured lenders – typically banks and financial institutions – monitoring the quality of their collateral and forcing companies into bankruptcy when liquidation values are less than the amounts owing to them. We therefore control for the effect of secured lending. The $\%SECURED$ variable equals the percentage of total liabilities secured against the company's

assets at the date the company enters bankruptcy. There is some evidence that asset realizations are higher when other companies in the bankrupt company's industry have better performance (Shleifer and Vishny 1992; Acharya et al. 2007). We control for this using *IND_ROA*, which equals the mean return on assets for other companies belonging to the bankrupt company's industry, calculated in the year that the company files for bankruptcy. To distinguish between this industry variable and the performance of the bankrupt company, we control for the bankrupt company's own return on assets (*ROA*). This profitability measure is calculated from the most recent financial statements filed before the company enters bankruptcy.¹⁰ Finally, we control for the market's assessment of the company's performance. Specifically, the *RET* variable is the company's buy-and-hold return during the 12 month period leading up to the company's suspension from trading (or, in the event that the stock is not suspended, the month prior to entering bankruptcy).¹¹

4. RESULTS

(i) The sample of bankrupt companies

To test H2, we require data on the book values of assets as of the date that the company enters bankruptcy and the realized values of the same assets after they are sold. These data are unavailable in most countries but are publicly available in the UK. Therefore, our tests of H2 are conducted on bankrupt UK companies. In the UK, the insolvency practitioner works with the company's former management to prepare a statement of affairs that details the book values of assets and liabilities as of the date that the company enters bankruptcy. At the end

¹⁰ In untabulated tests, we also use industry z-scores and industry stock returns to measure the financial condition and performance of the industry (Acharya et al., 2007). We find that these alternative measures of industry performance are not statistically significant in equation (3) and adding these variables to the model does not alter our inferences for the *GC* variable.

¹¹ In untabulated tests we additionally control for firm size (market capitalization) and the market-to-book ratio, both of which are found to be statistically insignificant. Our inferences regarding the *GC* variable remain unaffected.

of the bankruptcy proceedings, the insolvency practitioner prepares a final statement showing how much money was raised from selling the assets. Both the statement of affairs and the final report are filed at Companies House where they are made publicly available. We exploit this information to measure both the book values and the realized values of assets sold in bankruptcy.¹²

Our tests of H2 are undertaken using publicly traded UK companies that enter bankruptcy between 1994 and 2008. We begin in 1994 because the statements of affairs and the reports of insolvency practitioners are not available in electronic format before this date. We end in 2008 because bankruptcies in the UK can take several years to complete and we require the bankruptcy process to be completed in order to measure the final proceeds from asset sales.

Many of the bankrupt companies in our sample are corporate groups. Because bankruptcy filings are unavailable for subsidiaries located outside of the UK, we restrict our sample to groups whose subsidiaries are all located in the UK. We require the availability of the statements of affairs and the insolvency practitioners' final reports for all bankrupt subsidiaries belonging to a group. Using the statements of affairs of each subsidiary, we eliminate all intercompany assets and liabilities in order to arrive at the consolidated assets and liabilities for the group as a whole. After imposing these sample restrictions, we are left

¹² Under the UK bankruptcy code, a court-appointed insolvency practitioner takes control of the company once it files for bankruptcy and the company's former management ceases to have any control. The bankrupt company is run by an insolvency practitioner who works on behalf of the company's creditors. The key objective of the insolvency practitioner is to realize the assets of the company quickly and efficiently, and distribute the proceeds to creditors according to the priority of their claims. The UK's bankruptcy process is similar to some European countries such as Sweden in the sense that it always results in the company's assets being sold (e.g., Thorburn, 2000) but it is somewhat different from the bankruptcy system of the US. In the US, deviations from absolute priority are common, managers typically retain control even after the company enters into Chapter 11, and the court-administered bankruptcy process can be lengthy (e.g., Franks et al., 1996; Bris et al., 2006; Djankov et al., 2008). In contrast, the UK bankruptcy code adheres strictly to the priority of claims, it is administered by an insolvency practitioner who is appointed by the company's creditors, and the bankruptcy process is relatively short. Although the bankruptcy systems are different in the UK and US, our key predictions are the same in both countries because, as discussed in Section 2, both countries have essentially the same auditing standards with respect to reporting on the GC assumption.

with 120 bankrupt groups. (The Appendix provides further information on the data sources and the construction of the variables.)

Panel A of Table 1 provides descriptive statistics. The mean book value of total assets (*BOOK*) at the date of bankruptcy is £8.335 million. By the end of bankruptcy, the mean liquidation value of total assets (*LIQ*) is £3.901 million. Therefore, the proceeds from asset sales are considerably less than the book values of the same assets. This is consistent with the GC basis causing a lack of conservatism in the balance sheet. The realization rate ($\%REAL = LIQ / BOOK$) measures the magnitude of the wedge between liquidation values and book values. The mean (median) values of $\%REAL$ are 0.531 (0.418), confirming that liquidation values are typically one half the level of book values. The descriptive statistics for each asset category reveal that 14.0% of assets are land and property, 8.5% are intangibles, 27.2% are other fixed assets, 11.9% are inventory, and 38.5% are other non-cash current assets.

[INSERT TABLE 1 HERE]

(ii) *Estimating the realization rates of different categories of assets*

The OLS results for equation (1) are reported in Panel B of Table 1. The coefficients indicate that land and property are disposed of for £0.884 per £1.000 of book value, intangibles for £0.089, other fixed assets for £0.451, inventory for £0.477, and other non-cash current assets for £0.572. The realization rate for land and property (88.4%) is significantly higher than the realization rate for intangibles (8.9%) (p-value < 0.001) and other fixed assets (45.1%) (p-value = 0.053). The realization rate for intangibles (8.9%) is significantly lower than the realization rate for other fixed assets (45.1%) (p-value = 0.013), inventory (47.7%) (p-value = 0.053), and other non-cash current assets (57.2%) (p-value = 0.002). The remaining pair-wise comparisons are not statistically significant.

Overall, these results confirm that the liquidation values of assets are typically much smaller than their book values under the GC assumption, and the realization rate for any given asset depends strongly on its specificity. In particular, intangible assets are intrinsically linked to the company and have little value once the company ceases to be a going-concern, whereas land and property have relatively high realization rates. We use these estimated realization rates to test our first hypothesis, which requires an estimate of a company's overall expected realization rate ($E(\%REAL)$ in equation (2)). We test H1 in the following sub-section.

(iii) Results for H1

We estimate the GC model in equation (2) using samples of UK and US companies. The UK and US have similar auditing standards with respect to GC reporting and so we expect that GC opinions play the same economic function in both countries. We choose a sample period of 2000 to 2009 because GC opinions in the US are covered by Audit Analytics starting in 2000. For the US sample, we obtain financial statement data from COMPUSTAT and market data from CRSP. For the UK sample, financial statement data comes from Thomson Financial's Company Analysis database while market variables are from the London Share Price Database (LSPD). Audit opinions are identified using the Perfect Information database, which provides a web-based search engine of the annual reports of public companies in the UK. This yields 18,257 company-year observations for the UK and 40,699 observations for the US. We estimate robust standard errors that are clustered at the company level because our sample comprises a panel (2000-2009) with repeated observations on each company.

Table 2 presents descriptive statistics for the UK (Panel A) and the US (Panel B). We find that 4.3% of UK companies receive GC opinions, compared with 16.9% in the US. These GC frequencies are consistent with prior studies of GC reporting in the two countries

(e.g., Lennox 2000; Reichelt and Wang 2010). In line with the differences in GC frequencies in the two countries, the percentage of companies going bankrupt is lower in the UK (0.9%) than in the US (1.4%). The mean expected realization rate ($E(\%REAL)$) is 52.4% in the UK and 56.1% in the US. Compared with the US, companies in the UK tend to be smaller ($Ln(TA)$), have lower leverage (LEV), are less likely to be audited by the Big 4 (BIG), and are more likely to have returns data available (D).

[INSERT TABLE 2 HERE]

The regression results for equation (2) are reported in Table 3. Panel A shows results for the UK sample while Panel B shows results for the US sample. In both panels, the first columns report the results from estimating the GC reporting models on the full samples. The coefficients on the expected realization rate ($E(\%REAL)$) are significant in the expected direction. For instance, in Col. (1) of Panel A (UK companies) the coefficient on $E(\%REAL)$ is -1.25 with a z-stat of -4.04 (p-value < 0.01). Similarly, the $E(\%REAL)$ variable has a coefficient of -1.96 (z-stat = -9.78 ; $p < 0.01$) in Col. (1) of Panel B (US companies). These results imply that auditors in the UK and US are more likely to issue GC opinions when companies have low $E(\%REAL)$ ratios. This is consistent with our prediction in H1 that auditors issue GC opinions when the realization rates of assets are expected to be low.¹³

¹³ We assess the robustness of our results by measuring the expected realization rate in two alternative ways. First, land and property values are sometimes not disclosed separately from other fixed assets in the balance sheet. Therefore, we examine whether our results hold when land and property are included within the other fixed assets category. Specifically, we calculate an alternative estimate of $E(\%REAL)$ by regressing the observed realization rate ($\%REAL$) on four rather than five asset categories: namely, the intangibility ratio ($\%INTANG$), the other fixed assets ratio ($\%OFA$), the inventory ratio ($\%INVEN$), and other current assets ($\%OCA$). Using this approach, we obtain estimated realization rates of 8.2% for intangibles, 61.1% for other fixed assets, 49.1% for inventory, and 55.6% for other current assets. Second, because our $E(\%REAL)$ measure is constructed using UK data and our tests of H1 are conducted on both UK and US companies, we construct an alternative measure of a company's expected realization rate using the coefficient estimates reported in the US study of Berger et al. (1996). In untabulated regressions, we find similar results using both of these alternative measures of $E(\%REAL)$. The coefficients on each $E(\%REAL)$ variable are all negative and statistically significant at the $p < 0.01$ level.

[INSERT TABLE 3 HERE]

Our prediction for H1 is made only for companies that are financially distressed. For companies that are financially healthy, there is expected to be a very low risk of bankruptcy and so the expected realization rate is not expected to be an important factor influencing the auditor's decision to issue a GC opinion. Consequently, we re-estimate the GC reporting models separately for distressed and non-distressed companies. Consistent with prior research (e.g., Reynolds and Francis, 2000; Lim and Tan, 2008; Reichelt and Wang, 2010), we classify a company as being financially distressed if it reports negative cash flows in the current year. (Untabulated tests indicate that our results are robust if we partition the sample using alternative measures of financial distress such as companies with negative net income or companies with a high probability of bankruptcy based on *ZSCORE*). Results for the distressed samples are reported in Col. (2) while results for the non-distressed samples are reported in Col. (3).

Consistent with H1, we find that our results are driven by the distressed companies in our samples. The results for UK companies in Panel A show that the $E(\%REAL)$ coefficient is -1.45 and highly significant in the distressed sample ($z\text{-stat.} = -4.41$) whereas it is insignificantly different from zero in the non-distressed sample (coefft. = -0.11 ; $z\text{-stat.} = -0.16$). Similar results are found for US companies in Panel B. The $E(\%REAL)$ coefficient is -2.44 and highly significant in the distressed sample ($z\text{-stat.} = -11.50$) whereas it is close to zero and insignificant in the non-distressed sample (coefft. = -0.07 ; $z\text{-stat.} = -0.16$). Thus, the expected realization rate matters for companies that face a significant risk of bankruptcy but not for companies that appear to be financially healthy.

The coefficients for the control variables have the predicted signs and are consistent with prior research. Most of the control variables are statistically significant. In particular, a GC opinion is more likely to be issued when a company has higher leverage (*LEVERAGE*), losses in the previous year (*LOSS*), is financially distressed (*ZSCORE*), has a non-Big N audit firm (*BIG*), and when a company has lower returns ($D \times FISCAL_RET$) or higher return volatility ($D \times STDEV_RET$).¹⁴

(iv) *Is the expected realization rate simply a proxy for a company's bankruptcy risk?*

A natural question to ask is whether the *E(%REAL)* variable in Table 3 is a proxy for the likelihood of bankruptcy rather than the expected outcome of bankruptcy (i.e., the realization rate). Auditors consider not only the likelihood of bankruptcy but also the expected realization rate when they decide whether to issue GC opinions – the latter is the focus of our study. Therefore, it is necessary to rule out the alternative explanation that the *E(%REAL)* variable is actually capturing the likelihood of bankruptcy.

We investigate this by testing whether *E(%REAL)* is a significant predictor of bankruptcy. Specifically, we estimate a bankruptcy prediction model in which the dependent variable (*BANKRUPTCY*) equals one if the company files for bankruptcy within 15 months following its prior fiscal year-end, and zero otherwise. The set of independent variables comprises the expected realization rate (*E(%REAL)*) and all the other financial distress variables used in Table 3 (i.e., *Ln(TA)*, *LEV*, *ROA*, *LOSS*, *OPCF*, *LIQUIDITY*, *BIG*, *D*, $D \times$

¹⁴ In untabulated tests, we control for unobservable company-specific characteristics by estimating the GC reporting models using a fixed effects logit specification. We continue to find significant negative coefficients on the *E(%REAL)* variable in these fixed effects models. A limitation of the fixed effects specification is that it requires variation over time in the GC dependent variable for each company in the sample. This means that the fixed effects model discards all yearly observations in which a company receives clean audit opinions in every sample year or receives GC opinions in every sample year. The sample sizes in the fixed effects models are therefore much smaller than the samples used in Table 3.

$FISCAL_RET$, and $D \times STDEV_RET$). These variables are the standard covariates in the bankruptcy prediction literature (e.g., Campbell et al. 2008).¹⁵

Ex ante, the sign of the relation between $E(\%REAL)$ and the likelihood of bankruptcy is unclear. On one hand, a high value of $E(\%REAL)$ means that a company has more opportunity to generate cash by selling its assets or using its assets as collateral which would help the company to avoid bankruptcy. Thus, there could be a negative relationship between the expected realization rate and the likelihood of bankruptcy. On the other hand, a high value of $E(\%REAL)$ means that the company is worth relatively more in the liquidation state and so creditors have stronger incentives to file for bankruptcy. Therefore, there could be a positive relationship between the expected realization rate and the likelihood of bankruptcy. Given these alternative arguments we do not make a prediction for the sign of the coefficient on $E(\%REAL)$ in the bankruptcy prediction model.

Our motivation for estimating the bankruptcy model is to determine whether the expected realization rate is really capturing the likelihood of bankruptcy. If it is then the negative association between $E(\%REAL)$ and GC reporting in Table 3 could be due to companies with high values of $E(\%REAL)$ being less likely to file for bankruptcy. On the other hand, if we find no relation or a positive relation between $E(\%REAL)$ and the likelihood of bankruptcy, then this alternative explanation would be unsupported. Thus, an insignificant coefficient or a significant positive coefficient would imply that the negative association between $E(\%REAL)$ and GC reporting cannot be explained by companies with low expected realization rates having a higher likelihood of bankruptcy.

Results for the bankruptcy prediction model are reported in Table 4. For both the US and UK samples, we find no significant relation between $E(\%REAL)$ and the likelihood of

¹⁵ Campbell et al. (2008) show that a reduced form bankruptcy prediction model such as the one we estimate generally performs better than a structural model based on option pricing theory.

bankruptcy. This is inconsistent with the expected realization rate being a proxy for bankruptcy risk. Therefore, the evidence does not support the alternative explanation that companies with higher expected realization rates are less likely to receive GC opinions because they are less likely to file for bankruptcy. In untabulated tests, we find similar results when the models in Table 4 are estimated separately for the distressed and non-distressed sub-samples.

[INSERT TABLE 4 HERE]

In another untabulated test, we include the bankruptcy dummy (*BANKRUPTCY*) as an additional control variable in the GC reporting models in Table 3.¹⁶ In these GC models, we find significant positive coefficients on the *BANKRUPTCY* variable for both the UK and US samples, indicating that soon-to-be-bankrupt companies are more likely to receive GC opinions. More importantly, the inclusion of the *BANKRUPTCY* variable does not change our inferences for H1. The coefficients on the expected realization rate remain negatively and significantly associated with the issuance of GC opinions (p-values < 0.001). Moreover, the coefficients on the expected realization rate (*E(%REAL)*) are virtually identical, whether or not the *BANKRUPTCY* variable is included in the model of GC reporting. This further supports our argument that the expected realization rate (*E(%REAL)*) is not a proxy for the likelihood of bankruptcy, but instead captures the wedge between the book values and the expected liquidation values of assets.

¹⁶ We do not include *BANKRUPTCY* in our main tabulated results in Table 3 for two reasons. First, our objective is to explain the auditor's decision to issue a GC opinion using variables that are observable at the time of the audit report. The *BANKRUPTCY* variable is not known at the audit report date as it is only observed *ex post*. Second, the direction of causality between the *BANKRUPTCY* variable and the GC opinion is unclear. On one hand, the issuance of a GC opinion could trigger bankruptcy by becoming a self-fulfilling prophecy. On the other hand, the *BANKRUPTCY* variable could pick up the effects of any financial health characteristics that are not included in the GC model.

(v) *Results for H2*

Table 3 has shown that an auditor is less likely to issue a GC opinion to a company whose expected realization rate is relatively high. However, this does not necessarily mean that GC opinions provide *incrementally* useful information about the future realization rate. Under H2, we expect auditors to have private information that is useful for assessing the future realization rate and this private information influences the auditor's decision to issue a GC opinion. Therefore, we expect the issuance of a GC opinion to convey useful information about the future realization rate after adjusting for the expected realization rate. We test this by estimating equation (3).

Panel A of Table 5 provides descriptive statistics for the independent variables in equation (3). The mean value of *GC* shows that 35% of companies receive GC warnings in their most recent audit reports prior to entering bankruptcy. This is similar to prior research showing that the majority of bankrupt companies in the UK do not receive GC opinions in their final audit reports (Lennox, 1999). The mean (median) values of *%SECURED* are 0.351 (0.342), implying that approximately one third of liabilities are secured on the company's assets. Interestingly, the realized values of assets are generally below the amounts that are owed to secured creditors. In fact, the ratio of liquidation value (plus cash) to secured liabilities has a mean value of approximately 75%.¹⁷ Thus, the liquidation proceeds are typically insufficient to fully repay the secured creditors. This is consistent with prior UK evidence on the payments made to secured and unsecured creditors when companies enter into bankruptcy. Franks and Sussman (2005) find that secured lenders recover around 75% of what they are owed, whereas unsecured creditors are usually unable to recover anything.

¹⁷ Data are unavailable on the costs of bankruptcy for many of the companies in our sample. Bankruptcy costs would mean that creditors do not receive all of the proceeds from asset sales. This does not matter for our study because our focus is on the wedge between book values and realized values rather than creditors' recovery rates.

Similarly, evidence from the US suggests that unsecured creditors often receive little or nothing in bankruptcy (White 1984).¹⁸

[INSERT TABLE 5 HERE]

The mean (median) values of profitability in the bankrupt company's industry (*IND_ROA*) are 4.1% (4.8%). Therefore, most companies in the bankrupt company's industry are reporting profits rather than losses. In contrast, the bankrupt companies have very poor performance according to their final financial statements prior to bankruptcy. The mean and median values of *ROA* are -71.9% and -17.8% respectively, with more than three quarters of the bankrupt companies reporting losses in their final fiscal year. The poor performance is also reflected in the companies' stock returns. The mean and median values of buy-and-hold returns during the year leading up to bankruptcy (*RET*) are -54.5% and -68.7% .

Next, we compare the unexpected realization rates of the 42 bankrupt companies that received prior GC opinions with the realization rates of the 78 bankrupt companies that did not receive prior GC opinions. The results of these tests are reported in Panel B of Table 5. As can be seen, the mean unexpected realization rate in the GC sample is -12.7% (t-stat = -2.05) with the negative sign indicating that the realization rate is abnormally low. In the non-GC sample the mean unexpected realization rate is 6.9% (t-stat = 1.39), which is significantly larger than the mean value of -12.7% in the GC sample. Consistent with our prediction in H2 that GC opinions predict lower unexpected realization rates, a univariate test reveals that the difference in unexpected realization rates is statistically significant (t-stat. =

¹⁸ White (1989) points out that a bank may lend to a failing company even if total liabilities exceed total assets as long as the bank is assured of being repaid *first*. Consistent with this, we find that most bankrupt companies have liability-to-asset ratios that exceed one.

–2.41). Similar results are observed when analyzing median unexpected realization rates which are also reported in Panel B of Table 5.

To see whether these results for H2 hold up in a multivariate analysis, Panel C of Table 5 reports the regression results for equation (3). Consistent with H2, Col. (1) shows that the *GC* variable has incremental information content for predicting the future realization rate. The coefficient on the *GC* variable is negative and statistically significant (t-stat. = –2.47) which means that the realization rate is significantly lower for the companies that previously received GC opinions. Col. (2) shows that the *GC* variable remains a statistically significant predictor of the future realization rate after controlling for the proportion of secured liabilities (*%SECURED*), average profitability in the bankrupt company’s industry (*IND_ROA*), and the bankrupt company’s own reported profits at the time of the audit opinion (*ROA*). In Col. (3) we further control for the company’s buy-and-hold return (*RET*) although this results in the loss of seven companies because market data are unavailable. The *GC* variable remains statistically significant in this alternate specification.

In untabulated tests, we further examine whether corporate governance variables predict the realization rate. The motivation for this analysis is that strong corporate governance may protect lenders by preserving value in the company’s assets (e.g., Frantz and Istelfjord 2013). To test whether corporate governance has this beneficial effect, we measure the proportion of board directors who are independent of management and we record the presence of an audit committee, remuneration committee, and nominating committee, as disclosed in the company’s final financial statements prior to filing for bankruptcy. We find that all the corporate governance variables are statistically insignificant. Inferences for our treatment variable (*GC*) are unaffected.

The key take-away from Table 5 is that GC opinions convey useful information about the future realization rate and this information is incremental to that contained in the expected

realization rate. In other words, GC opinions predict lower future realization rates even after controlling for asset specificity.

5. CONCLUSION

We propose that GC opinions perform a second economic function beyond merely warning investors about the likelihood of bankruptcy. Specifically, the issuance of a GC opinion serves as a warning about a lack of conservatism in the balance sheet which exists because the financial statements are prepared on a GC basis rather than a liquidation basis. Using this argument, we develop two hypotheses. Our first hypothesis is that auditors are more likely to issue GC opinions when the book values of assets are high relative to their expected liquidation values. Our second hypothesis is that GC opinions are informative signals of the wedge between the book values of assets and their future liquidation values.

To test our first hypothesis, we measure the expected realization rate as of the date that the auditor issues the audit report. Consistent with the accounting literature on asset specificity, we find that £1.00 of book value produces £0.09 in liquidation value for intangibles, £0.88 for land and property, £0.45 for other fixed assets, £0.48 for inventory, and £0.57 for other non-cash current assets. We then apply these estimated realization rates to the companies in our sample, in order to estimate their expected realization rates at the dates that auditors issue their audit report.

Consistent with H1, we find that auditors are more likely to issue GC opinions rather than clean opinions when the book values of assets are high relative to their expected liquidation values. This finding suggests that auditors issue GC opinions when the book values of assets are less conservative relative to their expected liquidation values. Consistent with H2, we find that - for companies that enter bankruptcy - the issuance of a prior GC opinion has predictive information content with respect to the wedge between book values

and future liquidation values. This finding is consistent with GC opinions providing informative signals to lenders about the lack of conservatism in the balance sheets of soon-to-be-bankrupt companies.

Overall, our results are supportive of the idea that auditors are more conservative in issuing GC reports when there is a lack of conservatism in the balance sheet, where the lack of balance sheet conservatism arises from assets being valued on a GC basis rather than the liquidation basis.

APPENDIX

To illustrate the data collection methodology, we discuss in detail one of the companies in our sample, i.e., Gaskell Plc. Data are collected in the same way for the remaining 119 bankrupt companies in our sample. The following steps describe our data collection procedure.

1. Using the FAME database, we find that Gaskell Plc filed for bankruptcy on March 18, 2005 and its final set of accounts correspond to the fiscal year-end December 31, 2003. Gaskell Plc's audit opinion on those accounts did not disclose a GC warning.
2. Using Gaskell Plc's unique registration number, we search for the company's filings on Companies House Direct (CHD). CHD is a web-based service that allows users to purchase company filings via the internet. To remain in our sample, we require that the bankruptcy process has ended and that all of the company's assets have been sold by the insolvency practitioner. (If bankruptcy proceedings are ongoing we drop the company from the sample because we require the insolvency practitioner's final report that reveals the total proceeds from asset sales.) After verifying that Gaskell Plc's bankruptcy has ended, we retrieve its bankruptcy filings from CHD. Specifically, we obtain the company's Statement of Affairs (Form 2.16B), the Insolvency Practitioner's Statement of Proposals (Form 2.17B) and the

Insolvency Practitioner's Progress Report (Form 2.24B). From these filings, we learn that Gaskell Plc is the holding company of a group that comprises four subsidiaries as of the date of bankruptcy: Gaskell Flooring Ltd., Gaskell Logistics Ltd., Gaskell Logistics Northern Ltd., and Gaskell Carpets Ltd. These subsidiaries are all located in the UK. Groups that have one or more subsidiaries located overseas are dropped from the sample because bankruptcy filings are only available for companies in the UK.

3. We retrieve the Statements of Affairs (Form 2.16B), Statements of Proposals (Form 2.17B) and Progress Reports (Form 2.24B) for each of Gaskell Plc's subsidiaries. The book values of assets and liabilities for the five companies as of the bankruptcy date (March 18, 2005) are reproduced below:

Statement of Affairs for Gaskell Plc as of March 18, 2005.

A – Summary of assets

	Book value (£000)
Assets subject to a fixed charge:	
Freehold property	1,517
Less: Owed to Barclays Bank	<u>(1,903)</u>
Fixed charge shortfall of £603,000 caught under Gaskell Flooring Ltd., Gaskell Logistics Ltd., and Gaskell Logistics Northern Ltd. fixed charge cross guarantees.	(603)
Assets subject to a floating charge:	
Plant and machinery (unencumbered)	178
Group Receivables:	
Gaskell Flooring Ltd.	4,641
Gaskell Logistics Ltd.	151
Uncharged assets:	
Other prepayments and receivables	130
<u>B – Summary of liabilities</u>	
Preferential creditors (employees claims)	(5)
Unsecured non-preferential claims	<u>(8,229)</u>

Statement of Affairs for Gaskell Flooring Ltd. as of March 18, 2005.

A – Summary of assets

	Book value (£000)
Assets subject to a fixed charge:	

Plant and machinery (unencumbered)	585	
Less: Barclays Bank £603,000 from Gaskell Plc. Shortfall caught under Gaskell Logistics Ltd.'s fixed charge cross guarantee.		(603)
Plant and machinery (encumbered)	1,794	
Less: Amounts due to hire purchase companies		(751)
Accounts receivable	2,417	
Less: Amounts due to Barclays sales ledger finance		(1,350)

Assets subject to a floating charge:		
Plant and machinery (unencumbered)	131	
Leasehold improvements	191	
Computer equipment	56	
Fixtures and fittings	215	
Pension receivable	1,067	
Uncharged assets:		
Other prepayments and receivables	681	
Inventory	2,023	

B – Summary of liabilities

Preferential creditors (employees claims)		(13)
Debts secured by floating charges (Barclays Bank Plc £341,000 from Gaskell Logistics Ltd.)		(341)
Unsecured non-preferential claims		(18,449)

Statement of Affairs for Gaskell Logistics Ltd. as of March 18, 2005.

A – Summary of assets

	Book value (£000)	
Assets subject to a fixed charge:		
Plant and machinery (encumbered)	106	
Less: Amounts due to hire purchase companies		(16)
Plant and machinery (unencumbered)	115	
Less: Barclays Bank from Gaskell Flooring Ltd. Includes a shortfall of £341,000 caught under Gaskell Flooring Ltd.'s floating charge.		(358)
Assets subject to a floating charge:		
Plant and machinery (unencumbered)	44	
Accounts receivable	1,072	
Inventory	40	
Group receivables	409	
Uncharged assets:		
		Nil

B – Summary of liabilities

Preferential creditors (employees claims)		(8)
Unsecured non-preferential claims		(8,484)

Statement of Affairs for Gaskell Logistics Northern Ltd. as of March 18, 2005.

<u>A – Summary of assets</u>		Book value (£000)
Assets subject to a fixed charge:		Nil
Assets subject to a floating charge:		
Plant and machinery (unencumbered)		150
Group receivables		4,376
Uncharged assets:		Nil
<u>B – Summary of liabilities</u>		
Preferential creditors (employees claims)		(4)
Unsecured non-preferential claims		Nil

Statement of Affairs for Gaskell Carpets Ltd. as of March 18, 2005.

<u>A – Summary of assets</u>		Book value (£000)
All company assets were transferred to Gaskell Flooring Ltd.		Nil
<u>B – Summary of liabilities</u>		
Preferential creditors (employees claims)		Nil
Unsecured non-preferential claims		(99)

4. Next, we use the above information to construct a consolidated balance sheet for the group as a whole. Specifically, we add up the assets and liabilities of each subsidiary, while making sure that we eliminate any inter-company balances. That is, we exclude receivables owing from group companies when we calculate the group's total assets and we deduct these inter-company receivables from the group's total liabilities. Thus, we obtain the following values for the book values of assets and liabilities as of the date the Gaskell group enters bankruptcy:

<u>The Gaskell group</u>		£000
Book value of total assets (<i>BOOK</i>) ^a		12,512
Secured liabilities (<i>SECURED_LIAB</i>) ^b		4,037
Preferential creditors ^c		30
Unsecured non-preferential creditors ^d		25,684
Total liabilities (<i>LIAB</i>)		<u>29,751</u>

Notes:

^a $12,512 = (1,517 + 178 + 130) + (585 + 1,794 + 2,417 + 131 + 191 + 56 + 215 + 1,067 + 681 + 2,023) + (106 + 115 + 44 + 1,072 + 40) + (150)$. This total is calculated after excluding all receivables owing from group companies.

^b 4,037 = 1,903 + 751 + 1,350 + 16 + (358 - 341).

^c 30 = 5 + 13 + 8 + 4.

^d 25,684 = (8,229 + 18,449 + 8,484 + 99) - (4,641 + 151 + 409 + 4,376). This total is calculated after deducting the amounts that are owing to group companies.

5. We retrieve the final reports issued by the insolvency practitioner that show the proceeds from selling off the Gaskell group's assets during bankruptcy. The reports prepared by the insolvency practitioner do not show how much is raised from the sales of each type of asset. Thus, we calculate the total proceeds rather than the amounts realized for each asset category. We take care to identify any changes in the identity of the insolvency practitioner during bankruptcy. For example, the Gaskell group began the bankruptcy process by appointing an administrator on March 18, 2005 and subsequently it appointed a liquidator on March 10, 2006. Typically, an administrator attempts to sell the assets on a combined basis, e.g., by selling off the better performing parts of the business as going-concerns. In contrast, a liquidator is usually appointed to sell off the company's assets on a piecemeal basis after the administrator has sold off any parts of the company that can continue operating as going-concerns. Given that there is a change in the identity of the insolvency practitioner on March 10, 2006, it is important to account for any monies transferred from the administrator to the liquidator when the handover occurs. These calculations are illustrated for the Gaskell companies below:

Gaskell Plc Group	£	£
Assets realized by the administrator:		
Gaskell Plc	1,401,989	
Gaskell Flooring Ltd.	3,590,198	
Gaskell Logistics Ltd.	Nil	
Gaskell Logistics Northern Ltd.	4,012	
Gaskell Carpets Ltd.	Nil	
Less: monies transferred from the administrator to the liquidator:		
Gaskell Plc		(121,493)
Gaskell Flooring Ltd.		(1,318,795)

Gaskell Logistics Ltd.		Nil
Gaskell Logistics Northern Ltd.		(99)
Gaskell Carpets Ltd.		Nil
Assets realized by the liquidator (including monies received from the administrator):		
Gaskell Plc	467,867	
Gaskell Flooring Ltd.	2,212,775	
Gaskell Logistics Ltd.	Nil	
Gaskell Logistics Northern Ltd.	223,570	
Gaskell Carpets Ltd.	Nil	
Total liquidation value of the assets (<i>LIQ</i>)		<u>6,460,024</u>

To summarize, we obtain the following variable values for the Gaskell group:

- the book value of total assets at the bankruptcy date (*BOOK*) is £12.51 million,
- the asset ratios for land (*%LAND*), intangibles (*%INTANG*), other fixed assets (*%OFA*), inventory (*%INVEN*), and other current assets (*%OCA*) are 13.7%, 0.0%, 22.3%, 16.5%, and 47.6%, respectively,
- the book value of total liabilities at the bankruptcy date (*LIAB*) is £29.75 million, of which £4.04 million is secured on the company's assets (*SECURED_LIAB*), and
- the total liquidation value of the assets sold in bankruptcy (*LIQ*) are £6.46 million.

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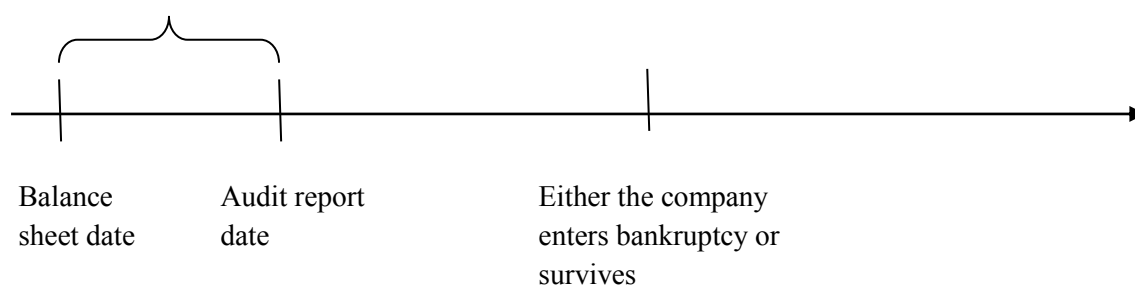
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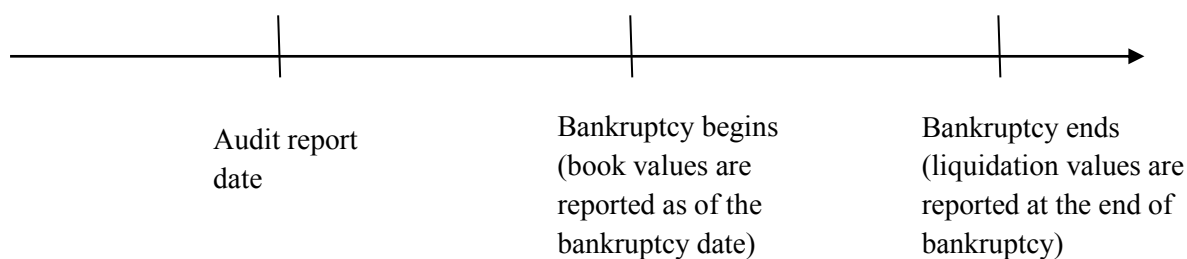
Figure 1

The Timeline for Companies that are at Risk of Bankruptcy as of the Audit Report Date

H1: For companies that are at risk of bankruptcy, auditors are more likely to issue GC opinions when the wedge between book values and expected liquidation values is high.

**Figure 2**

The Timeline for Companies that Enter Bankruptcy



H2: For companies that enter into bankruptcy, the issuance of a prior GC opinion predicts a larger wedge between the book values and the future liquidation values of assets.

Table 1
Estimating the Realization Rates for Five Categories of Non-cash Assets

Panel A: Descriptive Statistics					
	Mean	St. Dev.	p25	p50	p75
<i>BOOK</i>	8,335	19,500	636	2,858	9,710
<i>LIQ</i>	3,901	5,906	138	1,116	5,416
<i>%REAL</i>	0.531	0.453	0.199	0.418	0.731
<i>%LAND</i>	0.140	0.233	0.000	0.000	0.202
<i>%INTANG</i>	0.085	0.212	0.000	0.000	0.002
<i>%OFA</i>	0.272	0.281	0.051	0.174	0.411
<i>%INVEN</i>	0.119	0.172	0.000	0.027	0.190
<i>%OCA</i>	0.385	0.322	0.112	0.330	0.607

Panel B: OLS Regression Results for Equation (1) with Standard Errors that are Corrected for Heteroscedasticity.		
	Coefft.	t-stat.
<i>%LAND</i>	0.884	5.78***
<i>%INTANG</i>	0.089	1.44
<i>%OFA</i>	0.451	3.63***
<i>%INVEN</i>	0.477	2.54**
<i>%OCA</i>	0.572	4.86***

N	120
R ²	61.8%

*, **, *** = statistically significant at the 10%, 5%, 1% level (two-tailed).

Note:

The sample comprises 120 UK companies that file for bankruptcy between 1994 and 2008.

$$\%REAL = \alpha_1 \%LAND + \alpha_2 \%INTANG + \alpha_3 \%OFA + \alpha_4 \%INVEN + \alpha_5 \%OCA + v$$

(1)

%REAL = the realization rate of assets sold in bankruptcy (= *LIQ* divided by *BOOK*).

BOOK = the book value of total assets (excluding cash) as of the date that the company enters bankruptcy (£000).

LIQ = the gross proceeds from selling total assets (excluding cash) during bankruptcy (£000).

%INTANG = the book value of intangible assets, divided by *BOOK*.

%LAND = the book value of land and property assets, divided by *BOOK*.

%OFA = the book value of other fixed assets (excluding intangibles, land and property), divided by *BOOK*.

%INVEN = the book value of inventory, divided by *BOOK*.

%OCA = the book value of other current assets (excluding inventory and cash), divided by *BOOK*.

Table 2

Descriptive Statistics of Sample Companies in the UK and US (2000-2009)

Panel A: UK Sample (N = 18,257)

<i>Variable</i>	Mean	St. Dev.	p25	p50	p75
<i>GC</i>	0.043	0.203	0.000	0.000	0.000
<i>BANKRUPTCY</i>	0.009	0.093	0.000	0.000	0.000
<i>E(%REAL)</i>	0.524	0.189	0.410	0.515	0.626
<i>Ln(TA)</i>	3.578	2.494	1.921	3.461	5.122
<i>LEV</i>	0.541	0.373	0.291	0.508	0.699
<i>ROA</i>	-0.044	0.239	-0.090	0.027	0.086
<i>LOSS</i>	0.356	0.479	0.000	0.000	1.000
<i>OPCF</i>	-0.043	0.381	-0.071	0.051	0.126
<i>LIQUIDITY</i>	3.251	6.016	0.940	1.422	2.567
<i>ZSCORE</i>	0.333	0.246	0.187	0.228	0.373
<i>INVESTMENT</i>	0.031	0.148	0.000	0.000	0.000
<i>FINANCE</i>	0.327	0.469	0.000	0.000	1.000
<i>ACCRUALS</i>	-0.169	0.616	-0.136	0.012	0.063
<i>BIG</i>	0.512	0.500	0.000	1.000	1.000
<i>D</i>	0.820	0.384	1.000	1.000	1.000
<i>FISCAL_RET</i>	0.022	0.572	-0.349	-0.015	0.261
<i>STDEV_RET</i>	0.504	0.269	0.317	0.459	0.669
<i>AGE</i>	1.934	1.268	1.099	1.946	2.944
<i>BETA</i>	0.738	0.437	0.512	0.898	1.035

Panel B: US Sample (N = 40,699)

<i>Variable</i>	Mean	St. Dev.	p25	p50	p75
<i>GC</i>	0.169	0.375	0.000	0.000	0.000
<i>BANKRUPTCY</i>	0.014	0.116	0.000	0.000	0.000
<i>E(%REAL)</i>	0.561	0.179	0.451	0.529	0.663
<i>Ln(TA)</i>	4.411	2.779	2.823	4.654	6.314
<i>LEV</i>	0.712	0.781	0.283	0.504	0.765
<i>ROA</i>	-0.216	0.485	-0.272	0.000	0.060
<i>LOSS</i>	0.500	0.500	0.000	1.000	1.000
<i>OPCF</i>	-0.189	0.799	-0.115	0.044	0.115
<i>LIQUIDITY</i>	3.044	4.272	1.102	1.874	3.252
<i>ZSCORE</i>	0.237	0.338	0.026	0.066	0.255
<i>INVESTMENT</i>	0.161	0.236	0.000	0.037	0.237
<i>FINANCE</i>	0.217	0.412	0.000	0.000	0.000
<i>ACCRUALS</i>	-0.345	1.183	-0.165	-0.067	-0.016
<i>BIG</i>	0.642	0.479	0.000	1.000	1.000

<i>D</i>	0.665	0.472	0.000	1.000	1.000
<i>FISCAL_RET</i>	0.151	1.009	-0.334	-0.002	0.354
<i>STDEV_RET</i>	0.677	0.437	0.392	0.571	0.849
<i>AGE</i>	2.325	0.985	1.792	2.398	2.996
<i>BETA</i>	1.277	1.090	0.521	1.809	1.809

Notes:

GC = 1 if the auditor issues a going-concern opinion, and 0 otherwise.

E(%REAL) = the expected realization rate of the company's assets in the event of bankruptcy. The expected realization rate is calculated using the coefficient estimates in Panel B of Table 1 and with a weighting of one on cash and cash equivalents. That is, $E(%REAL) = (0.884 \times \text{Land and property} + 0.089 \times \text{Intangible assets} + 0.451 \times \text{Other fixed assets} + 0.477 \times \text{Inventory} + 1.000 \times \text{Cash and cash equivalents} + 0.572 \times \text{Other current assets})$, divided by total assets.

BANKRUPTCY = 1 if the company files for bankruptcy within fifteen months of the company's fiscal year-end date, and 0 otherwise.

$\ln(TA)$ = Natural log of total assets.

LEV = Total liabilities, divided by total assets.

ROA = Profit before tax and exceptional and extraordinary items, divided by total assets.

LOSS = 1 if the previous year's *ROA* is negative, and 0 otherwise.

OPCF = Operating cash flows, divided by total assets.

LIQUIDITY = Current assets divided by current liabilities.

ZSCORE = probability of bankruptcy based on Zmijewski's (1984) model.

INVESTMENT = short- and long-term investment securities.

FINANCE = an indicator variable equal to 1 when there is an increase of twenty percent or more in company long-term debt or common equity in the subsequent year.

ACCRUALS = net income minus cash flows from operations deflated by total assets.

BIG = 1 if the auditor is Big N firm, and 0 otherwise.

D = 1 if returns data are available, and 0 otherwise.

FISCAL_RET = Buy-and-hold raw return over the fiscal year.

STDEV_RET = Standard deviation of returns over the fiscal year.

AGE = natural logarithm of the number of years since the company was listed on a stock exchange.

BETA = firm beta measured using the market model over the fiscal year.

To mitigate outlier problems, the unbounded continuous variables are winsorized at the 1st and the 99th percentiles.

Table 3

The Expected Realization Rate and the Auditor's Decision to Issue a Going-Concern Opinion (H1)

Panel A: UK Companies

	Full sample		Distressed		Non-distressed	
	Coefft	z-stat	Coefft	z-stat	Coefft	z-stat
<i>E(%REAL)</i>	-1.254	-4.04 ^{**}	-1.447	-4.41 [*]	-0.111	-0.16
<i>Ln(TA)</i>	-0.090	-2.73 ^{**}	-0.002	-0.05	-0.161	-2.38 ^{**}
<i>LEV</i>	0.421	4.58 ^{**}	0.309	3.29 [*]	0.956	3.62 [*]
<i>ROA</i>	0.121	0.85	-0.039	-0.24	0.200	0.57
<i>LOSS</i>	0.981	7.19 ^{**}	0.553	3.72 [*]	0.799	3.93 [*]
<i>OPCF</i>	-0.116	-0.86	-0.110	-0.65	-1.716	-1.66 [*]
<i>LIQUIDITY</i>	-0.021	-1.38	-0.020	-1.35	-0.143	-1.22
<i>ZSCORE</i>	2.356	9.84 ^{**}	1.867	6.79 [*]	3.410	5.84 [*]
<i>INVESTMENT</i>	0.071	0.13	-0.124	-0.20	-0.030	-0.04
<i>FINANCE</i>	0.014	0.16	-0.046	-0.44	0.045	0.28
<i>ACCRUALS</i>	0.164	1.70 [*]	0.050	0.53	0.842	2.28 ^{**}
<i>BIG</i>	-0.352	-2.64 [*]	-0.277	-1.88 [*]	-0.504	-2.30 ^{**}
<i>D</i>	0.734	2.18 [*]	0.955	2.75 [*]	0.514	0.64
<i>D × FISCAL_RET</i>	-0.333	-3.39 ^{**}	-0.172	-1.77 [*]	-0.591	-3.02 [*]
<i>D × STDEV_RET</i>	0.873	3.64 ^{**}	0.570	2.08 ^{**}	1.575	4.08 [*]
<i>D × AGE</i>	0.300	3.96 ^{**}	0.334	3.86 [*]	0.266	2.01 ^{**}
<i>D × BETA</i>	-0.236	-0.85	-0.407	-1.26	0.438	0.93
<i>Year dummies</i>		Yes		Yes		Yes
<i>Industry dummies</i>		Yes		Yes		Yes
<i>Pseudo R²</i>		21.59 %		15.71 %		23.24 %
<i>Obs.</i>		18,257		6,641		11,616

*, **, *** = statistically significant at the 10%, 5%, 1% level (two-tailed).

Table 3
The Expected Realization Rate and the Auditor's Decision to Issue a Going-Concern Opinion (H1) (cont.)
Panel B: US Companies

	1		2		3	
	Full sample		Distressed		Non-distressed	
	Coefft	z-stat	Coefft	z-stat	Coefft	z-stat
<i>E(%REAL)</i>	-1.959	-9.78**	-2.445	-11.50**	-0.072	-0.16
<i>Ln(TA)</i>	-0.264	-11.92**	-0.247	-9.67**	-0.204	-5.58**
<i>LEV</i>	0.085	3.89**	0.069	3.15**	0.192	2.92**
<i>ROA</i>	-0.245	-2.38**	-0.139	-1.20	-0.548	-2.53**
<i>LOSS</i>	0.956	16.10**	0.571	7.24**	0.974	10.77**
<i>OPCF</i>	-0.165	-3.37**	-0.189	-3.62**	-1.082	-2.14**
<i>LIQUIDITY</i>	-0.016	-1.47	-0.015	-1.37	-0.039	-1.12
<i>ZSCORE</i>	2.376	18.17**	2.151	14.65**	2.610	11.18**
<i>INVESTMENT</i>	-0.772	-3.65**	-0.661	-3.09**	-2.598	-3.24**
<i>FINANCE</i>	-0.142	-1.75*	-0.308	-3.23**	0.298	2.15**
<i>ACCRUALS</i>	0.052	1.91**	0.004	0.13	0.129	1.60
<i>BIG</i>	-0.251	-3.50**	-0.113	-1.41	-0.389	-2.98**
<i>D</i>	-1.624	-9.93**	-1.251	-6.11**	-1.973	-8.47**
<i>D × FISCAL_RET</i>	-0.392	-5.06**	-0.326	-4.18**	-0.336	-2.10**
<i>D × STDEV_RET</i>	0.763	6.29**	0.512	3.37**	1.067	8.50**
<i>D × AGE</i>	0.019	0.59	-0.004	-0.11	0.072	1.36
<i>D × BETA</i>	0.045	1.44	0.037	1.11	-0.007	-0.12
<i>Year dummies</i>		Yes		Yes		Yes
<i>Industry dummies</i>		Yes		Yes		Yes
<i>Pseudo R²</i>		54.01%		44.64%		45.65%
<i>Obs.</i>		40,699		15,616		25,083

*, **, *** = statistically significant at the 10%, 5%, 1% level (two-tailed).

Table 3

The Expected Realization Rate and the Auditor's Decision to Issue a Going-Concern Opinion (H1) (cont.)

Note:

$$Prob(GC = 1) = F(\delta_0 + \delta_1 E(\%REAL) + CONTROLS + \varepsilon) \quad (2)$$

The models of going-concern audit reporting are estimated using logistic regression. The standard errors are adjusted for heteroscedasticity and for clustering on each company as there are multiple yearly observations relating to a given company. Z-statistics are reported in parentheses.

GC = 1 if the auditor issues a going-concern opinion, and 0 otherwise.

E(%REAL) = the expected realization rate of the company's assets in the event of bankruptcy. The expected realization rate is calculated using the coefficient estimates in Panel B of Table 1 and with a weighting of one on cash and cash equivalents. That is, $E(\%REAL) = (0.884 \times \text{Land and property} + 0.089 \times \text{Intangible assets} + 0.451 \times \text{Other fixed assets} + 0.477 \times \text{Inventory} + 1.000 \times \text{Cash and cash equivalents} + 0.572 \times \text{Other current assets})$, divided by total assets.

Ln(TA) = Natural log of total assets.

LEV = Total liabilities, divided by total assets.

ROA = Profit before tax and exceptional and extraordinary items, divided by total assets.

LOSS = 1 if the previous year's *ROA* is negative, and 0 otherwise.

OPCF = Operating cash flows, divided by total assets.

LIQUIDITY = Current assets divided by current liabilities.

ZSCORE = probability of bankruptcy based on Zmijewski's (1984) model.

INVESTMENT = short- and long-term investment securities.

FINANCE = an indicator variable equal to 1 when there is an increase of twenty percent or more in company long-term debt or common equity in the subsequent year.

ACCRUALS = net income minus cash flows from operations deflated by total assets.

BIG = 1 if the auditor is Big N firm, and 0 otherwise.

D = 1 if returns data are available, and 0 otherwise.

FISCAL_RET = Buy-and-hold raw return over the fiscal year.

STDEV_RET = Standard deviation of returns over the fiscal year.

AGE = natural logarithm of the number of years since the company was listed on a stock exchange.

BETA = firm beta measured using the market model over the fiscal year.

Table 4
The Expected Realization Rate and the Company's Propensity to File for Bankruptcy

	UK companies (N = 18,257)	US companies (N = 40,699)
<i>E(%REAL)</i>	-0.57 (-1.14)	-0.03 (-0.09)
<i>Ln(TA)</i>	0.00 (0.02)	0.31 (11.38)***
<i>LEV</i>	0.34 (1.91)*	0.01 (0.60)
<i>ROA</i>	0.18 (0.83)	-1.05 (-9.19)***
<i>LOSS</i>	1.06 (4.52)***	1.42 (9.76)***
<i>OPCF</i>	-0.23 (-0.85)	0.17 (2.25)**
<i>LIQUIDITY</i>	-0.28 (-3.07)***	-0.58 (-6.06)***
<i>BIG</i>	0.18 (0.85)	0.23 (1.55)
<i>D</i>	2.15 (3.38)***	-1.30 (-7.61)***
<i>D × FISCAL_RET</i>	-0.86 (-3.39)***	-1.64 (-6.24)***
<i>D × STDEV_RET</i>	0.41 (1.21)	0.46 (4.84)***
<i>Year dummies</i>	Yes	Yes
<i>Industry dummies</i>	Yes	Yes
<i>Pseudo R²</i>	16.30%	21.37%

*, **, *** = statistically significant at the 10%, 5%, 1% level (two-tailed).

Table 4

The Expected Realization Rate and the Company's Propensity to File for Bankruptcy (cont.)

Note:

$$BANKRUPTCY = F(\lambda_0 + \lambda_1 E(\%REAL) + CONTROLS + \varepsilon)$$

The control variables are the same as those shown in Table 3 (see Table 3 for variable definitions). The bankruptcy models are estimated using logistic regression. The standard errors are adjusted for heteroscedasticity and for clustering on each company as there are multiple yearly observations relating to a given company. Z-statistics are reported in parentheses.

GC = 1 if the auditor issues a going-concern opinion, and 0 otherwise.

E(%REAL) = the expected realization rate of the company's assets in the event of bankruptcy. The expected realization rate is calculated using the coefficient estimates in Panel B of Table 1 and with a weighting of one on cash and cash equivalents (i.e., $E(\%REAL) = (0.884 \times \text{Land and property} + 0.089 \times \text{Intangible assets} + 0.451 \times \text{Other fixed assets} + 0.477 \times \text{Inventory} + 1.000 \times \text{Cash and cash equivalents} + 0.572 \times \text{Other current assets})$, divided by total assets).

Ln(TA) = Natural log of total assets.

LEV = Total liabilities, divided by total assets.

ROA = Profit before tax and exceptional and extraordinary items, divided by total assets.

LOSS = 1 if the previous year's *ROA* is negative, and 0 otherwise.

OPCF = Operating cash flows, divided by total assets.

LIQUIDITY = Current assets divided by current liabilities.

BIG = 1 if the auditor is Big N firm, and 0 otherwise.

D = 1 if returns data are available, and 0 otherwise.

FISCAL_RET = Buy-and-hold raw return over the fiscal year.

STDEV_RET = Standard deviation of returns over the fiscal year.

Table 5

The Information Content of GC Opinions for Predicting the Unexpected Realization Rate (H2): Evidence from UK Bankrupt Companies

Panel A: Descriptive Statistics

	Mean	St. Dev.	p25	p50	p75
<i>UE(%REAL)</i>	0.000	0.432	-0.288	-0.059	0.169
<i>%REAL</i>	0.531	0.453	0.199	0.418	0.731
<i>E(%REAL)</i>	0.531	0.136	0.477	0.537	0.573
<i>GC</i>	0.350	0.479	0.000	0.000	1.000
<i>%SECURED</i>	0.351	0.296	0.068	0.342	0.564
<i>IND_ROA</i>	0.041	0.057	0.026	0.048	0.076
<i>ROA</i>	-0.719	2.069	-0.551	-0.178	-0.025
<i>RET</i>	-0.545	0.378	-0.853	-0.687	-0.297

Panel B: Univariate Tests of Differences Between the Unexpected Realization Rates of GC Companies and non-GC Companies

	<u><i>GC = 1</i></u>	<u><i>GC = 0</i></u>	<u>Differences</u>
Mean	-0.127	0.069	-0.196
T-stat	(-2.05)**	(1.39)	(-2.41)**
Median	-0.213	-0.004	-0.209
Z-stat	(-2.12)**	(0.202)	(-2.77)***
N	42	78	

Panel C: OLS Regression Results for Equation (3) with Standard Errors that are Corrected for Heteroscedasticity. T-statistics are Reported in Parentheses.

<i>GC</i>	-0.196 (-2.47)**	-0.178 (-2.18)**	-0.184 (-2.21)**
<i>%SECURED</i>		0.211 (1.53)	0.180 (1.27)
<i>IND_ROA</i>		-0.405 (-0.53)	-0.447 (-0.58)
<i>ROA</i>		0.013 (0.97)	0.014 (0.80)
<i>RET</i>			0.184 (1.71)*
<i>Intercept</i>	0.068 (1.39)	0.014 (0.20)	0.146 (1.48)
N	120	120	113
R ²	4.70%	7.60%	9.03%

*, **, *** = statistically significant at the 10%, 5%, 1% level (two-tailed).

Notes:

$$UE(\%REAL) = \beta_0 + \beta_1 GC + CONTROLS + u \quad (3)$$

$GC = 1$ if the company received a going-concern audit opinion in its most recent audited financial statements filed before the company entered bankruptcy, and 0 otherwise. $UE(\%REAL)$ is the unexpected realization rate computed as the difference between the actual realization rate ($\%REAL$) and expected realization rate ($E(\%REAL)$). $E(\%REAL)$ = the expected realization rate of the company's assets in the event of bankruptcy. The expected realization rate is calculated using the coefficient estimates in Panel B of Table 1 and with a weighting of one on cash and cash equivalents. That is, $E(\%REAL) = (0.884 \times \text{Land and property} + 0.089 \times \text{Intangible assets} + 0.451 \times \text{Other fixed assets} + 0.477 \times \text{Inventory} + 0.572 \times \text{Other current assets} + 1.000 \times \text{Cash and cash equivalents})$, divided by total assets. $\%SECURED$ = the percentage of total liabilities secured against the company's assets at the date the company enters bankruptcy. IND_ROA = the mean value of the return on assets for the bankrupt company's industry, calculated in the year that the company files for bankruptcy. ROA = the return on assets for the bankrupt company, calculated using the most recent audited financial statements filed before the company enters bankruptcy. RET = buy-and-hold returns during the 12 month period leading up to the company's suspension from trading (or, in the event that the stock is not suspended, the month prior to entering bankruptcy).