

**DOES THE GOING CONCERN AUDIT OPINION HAVE A STABILIZING
EFFECT ON THE OVERALL STOCK MARKET?**

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Abstract: Prior studies investigating the auditor's going concern opinion have not considered its likely effect on the portion of the market that is otherwise viable. Using two experimental markets, our results indicate that without warning of possible bankruptcies through a going concern opinion, market participants discount the stock price of all companies in the market, regardless of whether the company deserves such discounting. The lack of confidence in the market also results in a decrease in the number of market participants as the number of unexpected bankruptcies without the going concern opinion warning increases. Unlike a market without going concern opinions, when going concern opinions are issued market, the stock prices of companies not receiving such an opinion are not discounted. These results suggest that an important role for going concern opinions is to stabilize the broader market and not just to inform investors about companies with the going concern.

Key Words: Audit opinions, market confidence, bankruptcy, going concern.

I. Introduction

The aim of the present study is to examine whether the auditors' going concern opinion (GCO) affects market prices for companies that do not receive GCOs. The existing research related to GCOs has focused primarily on either (1) auditor judgment in determining whether or not to issue a GCO (e.g., Mutchler 1984 and 1985; Carcello, Hermanson, and Huss 1995), (2) the impact of GCOs on the individual companies that receive them (e.g., Mutchler 1986; Chen and Church 1996; Holder-Webb and Wilkins 2000; Tucker, Matsumura, and Subramanyam 2003), or (3) the impact of not receiving a GCO when perhaps the company should (e.g., Jones 1996).¹ No existing study has looked at the possible role that GCOs might play in stabilizing the broader stock market or on increasing the credibility of financial statements for healthy companies not receiving GCOs.

The corporate scandals of the early 21st century (e.g., Enron, WorldCom, Adelphia) led to decreased confidence in audited financial statements and in audit reports. The recent failings of companies such as Bear Stearns and the downfall of General Motors without any going concern warning from auditors has led to dramatic stock price decreases, not only for the individual companies, but also to an *apparent* decrease in overall market value. High levels of uncertainty lead to decreases in market value. Essentially, we find ourselves in the classic market for lemons problem — investors are potentially discounting all stock prices to protect themselves from unexpected company failures (Akerlof 1970). The current situation characterizes a market with high uncertainty.

¹ O'Reilly, Leitch, and Tuttle (2006) consider the signal of the GCO in the existing literature; however, each paper that is analyzed only considers the signal related to the individual company.

Using two experimental markets, the current study tests the impact of GCOs on the overall stock market (as opposed to just the company receiving the GCO), the impact on the broader market of unexpected bankruptcies (i.e., by companies that did not receive a GCO), and the resulting over- or under-confidence of investors in each case.

We use experimental markets because the extent (if any) that declines in the overall stock market can be attributed to the failure of audit firms' role to issue GCOs is unlikely to be answered with market data from the field. One reason for this is the absence of a benchmark market value with and without GCOs. Another reason is the difficulty in controlling for other variables that tend to coexist around company bankruptcies and periods of market stress. Hence, we run two experimental markets in which control is maintained over the information available to the market and in which we can determine *ex ante* the expected market value given the number of bankruptcies we impose on the market. Given this context, we test (1) the impact of issuing GCOs on the overall value of the market (as opposed to just the company receiving the going concern), (2) the impact of changing the ratio of the bankrupt companies that did or did not receive a GCO on the overall value of the market, and (3) the effect of GCOs on over- versus under-confidence as measured by the observed aggregate market value compared to *ex ante* expectations of market value.

Since the Securities Exchange Commission (SEC) Acts of 1933 and 1934, the statutory audit has been a key mechanism to protect the interests of company shareholders. Nevertheless, over time there have been numerous incidents of fraudulent financial reporting that have gone initially undetected by financial statement audits. Until the significant scandals at the beginning of the 21st century (e.g., Enron, WorldCom, and

Adelphia) and the “unexpected” failures of several prominent companies during 2008 (e.g., Bear Stearns, Lehman Brothers, and Wachovia), however, the response of the broader stock market has been relatively minimal.

The most significant declines in the stock market since its beginning were roughly an 88% decline from July 1, 1929 to April 1, 1932, a 40% decline from October 2, 1972 to July 1, 1974, and a 40% decline from October 9, 2007 to October 10, 2008. However, as is shown in Table 1, only two times in history has there been a one year decline greater than the 2007-2008 decline and both one year periods were during the Great Depression prior to the SEC 1933 and 1934 Acts.

[Insert Table 1 about here]

Leading up to the accounting scandals in 2001 and 2002, investors had shown “irrational exuberance” in the stock market, running the Dow Jones Industrial Average and the NASDAQ to record highs. Such alleged over-confidence in the market collided with the recent scandals causing investors to doubt the credibility of audited financial statements. This weakening of confidence in audited financial statements purportedly caused a significant decline in the value of the individual company stocks as well as a significant decline in the overall stock market.

Subsequent to the market decline from January 2, 2002, to April 2, 2002, the market recovered to set new record highs with the Dow Jones Industrial Average peaking at over 14,000 at the beginning of October 2007. Policymakers attribute the market recovery to the restoration of confidence in the audited financial statements in the eyes of investors. However, during the period that followed, there were several Fortune 500 companies that unexpectedly failed. The failures were unexpected because during the

period prior to their failures, none of the companies had received a going concern explanatory paragraph as part of the auditor's independent report. As previously mentioned and as shown in Table 1, what followed was a severe decline in the overall stock market. Although many companies still had sound financial statements, the failure of major companies without warning apparently increased the risk associated with audited financial statements for the entire market.²

Results in the current study indicate that investors in a no-GCO market discount the stock prices for the overall market with the amount of the discount approximating the percentage of companies expected to go bankrupt. Given there is no warning of bankruptcy for deserving companies, investors discount the stock prices of all companies in the market. Additionally, the number of participants in the market decreases as the number of bankruptcies without GCO warning increases. Such a reduction in participation is evidence of a decrease in investor confidence. Consistent with expectations, the presence of GCOs stabilizes the stock prices for companies not receiving a GCO. Investors discount the stock price of companies receiving a GCO, while unlike the market without GCOs, investors discount the stock prices of the rest of the market only to the level of expected bankruptcies of non-GCO companies. Additionally, in the market with GCOs, the number of participants in the market did not significantly decrease as the number of bankruptcies increased. The lack of change in the number of participants in the market is consistent with there being no change in the confidence in the overall market.

² It is acknowledged that some of the decline in the market from October 2007 through October 2008 relates to the decrease in available credit for both banks and companies along with other possible contributing factors.

These conclusions shed new light with respect to formal rationales for the existence of auditing in a free market. Specifically, Wallace (1987) provides three hypotheses for the existence of an independent audit, one of which is the information hypothesis. The information hypothesis suggests that audits exist to provide credible, and otherwise unavailable, information to financial statement users in order to (1) reduce overall information risk, (2) improve decision making by financial statement users (both inside and outside the company), and (3) improve investors' rebalancing of risk level in the individual's investment portfolio. Several studies test the information hypothesis by specifically looking at the role of GCOs but only in relation to individual companies and not with respect to the market as a whole (Shefrin and Statman 1985; Odean 1998; Weber and Camerer 1998). Our data suggest a much broader result by showing that the effectiveness of GCOs affects the valuation of the entire market, not just the few firms that receive them.

The remainder of the paper proceeds as follows. Section two presents the hypotheses development followed by the method in Section three. The results are presented within Section three with each respective experiment. A discussion and conclusion is presented in Section four.

II. Hypotheses Development

Independent auditors' opinions are intended to provide a high level of credibility to the financial statements. Stakeholders rely on the auditors to provide an objective evaluation of the material information that affects investment judgments and stock price valuations. As stated in Statement on Auditing Standards No. 59, a component of that

communication is whether or not the company is expected to continue as a going concern for up to one year from the balance sheet date (AICPA 1988).

Existing research has been somewhat mixed related to whether companies that receive GCOs experience negative stock returns (e.g., Mutchler 1986; Chen and Church 1996; Holder-Webb and Wilkins 2000; Tucker, Matsumura, and Subramanyam 2003). The mixed results stem from the notion that the negative information causing the GCO may already be known by the market, and therefore, may already be reflected in the stock price. However, not surprisingly, research has also shown that around the time of bankruptcy filings, financially stressed companies that have not received a GCO have greater negative returns than those that did receive a GCO (e.g., Chen and Church 1996, Holder-Webb and Wilkins 2000). The studies conclude that the clean opinions from the auditors for the financially stressed companies that did not ultimately receive GCOs miscommunicate positive information to investors, which leads to greater negative returns when the company proceeds to go bankrupt. These results are consistent with the GCO providing information for investors that is used to discount the respective individual companies' stock prices.

In order to determine the information effect of GCOs across the entire market, we first examine a market without GCOs. In a market without GCOs we expect all stock prices to be discounted to reflect the possibility that companies may unexpectedly fail. The economic prediction is that the size of the discount should be in proportion to the market's expectation of how many companies will fail. That is, if the market believes that two percent of the companies in a given market will unexpectedly fail (without a warning from the auditors), then one expects a two percent discount in the price of all companies

within that market.³ The market discounts all stocks because it cannot identify which particular stocks will become worthless. This expectation leads to hypothesis 1:

H1: In a market without GCOs, stock prices for all companies in the market will be discounted in proportion to the number of companies that the market believes will go bankrupt.

Note that H1 is limited to failures that are without a warning from the auditors. This limitation is not without precedent in the field. Prior research suggests that only about half of all companies filing for bankruptcy had a going-concern-modified audit opinion in the immediately preceding financial statements (Altman 1982; Hopwood et al. 1989; McKeown et al 1991; Raghunandan and Rama 1995, Carcello and Palmrose 1994; Carcello et al. 1995; Geiger and Raghundandan 2002). This limitation also applies to the rather short windows between the market believing that “all is well” to its learning the true status of companies like AIG, Enron, WorldCom, Tyco, General Motors, Lehman Brothers, Bank of America, Wachovia, etc. Based on the unexpected nature of these events, the following corollary related to stock prices before the market learns that the company is bankrupt is proposed:

H1 Corollary: In a market without GCOs, the stock prices of companies that go bankrupt without a warning from the auditors, will not differ from the stock prices of companies that do not go bankrupt.

Market expectations upon which H1 relies are not based on perfect information but on markets containing a great deal of uncertainty. Research has shown that reactions to uncertainty, even in market settings, often depart from normative economic predictions (e.g., Ganguly, Kagel, and Moser 1994; Kahneman and Tversky 1979; Burton, Coller, and Tuttle 2006). As the amount of uncertainty increases (such as in markets

³ Note that this discussion contemplates only “unexpected” failures (without a warning from the auditors) It is expected that the market appropriately adjusts individual stock prices for expected failures.

experiencing a large number of failures without a warning from the auditors) we propose, in competition to H1, that the amount of the discount will likely deviate from economic predictions. More specifically, as uncertainty increases and expectations become less reliable, we anticipate a crisis to develop in market confidence such as that expressed by the financial media in connection with recent unexpected business failures (Kuehner-Hebert 2009).⁴ This undermining of confidence should push prices lower than the economic prediction as expressed in the following hypothesis:

H2a: As the number of bankruptcies increase in a market without GCOs, stock prices for all companies in the market will be discounted in a proportion greater than the number of companies going bankrupt.

Different people have different risk preferences and it is possible that a lack of confidence is not equally shared by all market participants. In this case, a so-called crisis in confidence precipitated by bankruptcies without warning from the auditors may affect the number of individuals willing to participate in the market in addition to the price that the remaining participants are willing to pay. On the other hand, if market participants are strictly rational from an economic perspective as proposed by H1, then participation in the market should be unaffected by the number of bankruptcies; only the price should be affected. To test this proposition, we propose the following hypothesis:

H2b: As the number of bankruptcies increase in a market without GCOs, the number of participants in the market will decrease.

Although we do not predict total market collapse from a lack of confidence, we note that it is theoretically possible (Akerlof 1970). We conduct markets in which the stock of 22 percent of the companies becomes worthless under the assumption that this

⁴ The Yale School of Management's Crash Confidence Index (Yale 2009), which measures institutional investors' confidence in terms of their belief about the likelihood of no market crash in the next six months, fell from 54.84 in March 2007 to only 18.32 in March 2009.

represents such a substantial proportion as to constitute a strong test of H2. Even during the period of record stock market decline from October 2007 through October 2008, there was not a 22 percent company failure rate.

Turning to a market with GCOs, if there is information content in a GCO then the market should directly discount the stock price of the companies receiving a GCO and this discount should be proportional to the reliability of the GCO. That is, the discount should reflect the proportion of companies with a GCO that ultimately fail (See Figure 1). For example, if approximately half of the companies that receive a GCO go bankrupt, then the economic prediction is that the market should discount these stocks by 50 percent.⁵ These expectations lead to the following hypothesis.

H3: In a market with GCOs, the market will discount the stocks of companies receiving a GCO in proportion to the reliability of the GCO.

[Insert Figure 1 about here]

In contrast to companies receiving a GCO, if the GCO is 100 percent accurate in identifying potentially bankrupt companies, the market should not discount the stock prices of companies that do not receive GCOs. However, the literature suggests that not all companies that go bankrupt receive GCOs. In this case, the market should discount non-GCO companies as predicted by H1, but only to the extent that the GCO fails to identify all potentially bankrupt companies. Hence, the following hypothesis is proposed:

H4: In a market with GCOs, the market will only discount companies that do not receive a GCO in proportion to one minus the reliability of the GCO.

⁵ This assumes that without the GCO, the market does not anticipate the failure.

To the extent that the GCO isolates the risk of bankruptcy to individual companies, one of its primary benefits should be to increase confidence in the overall market vis-à-vis a market without GCOs, thus helping to avoid a confidence crisis. We thus propose the following hypotheses:

H5a: Markets with GCOs will experience a smaller discount in stock prices than markets without GCOs.

H5b: Markets with GCOs will experience a smaller decrease in the number of participants in the market than markets without GCOs.

III. Method

In order to test the hypotheses, we conduct two markets that differ only in that there are no GCOs in the first market while there are GCOs in the second market. Data from Market 1 are used to test H1 and H2 and data from Market 2 are used to test H3 and H4. Markets 1 and 2 are compared to test H5. Each market took an entire semester to run—Market 1 ran in the fall and Market 2 ran in the spring. All markets are administered using paper and pencil.

Market Design

Both markets share a common design including the number of trading periods, the number of bankruptcies in any given period, and the manner in which individual trading portfolios are constructed. For example, both markets consisted of 10 trading periods (one period per week for 10 weeks) in which all participants traded on a portfolio of 16 stocks drawn from blocks of 50 created by dividing the S&P 500 into ten equal blocks. Each block was then used during one trading period. As a result, each period is independent of the other periods in that the markets traded on a different set of companies each week.

Of the 16 stocks in any given portfolio, ten “optional” stocks were shared by every participant and six “required” stocks were randomly drawn from the remaining 40.⁶ That is participants were required to bid on the 6 required stocks but had the option whether or not to bid on the ten optional stocks. By requiring bids on some stocks and leaving the option open to bid or not bid on other stocks, we are able to separate volume and price effects of the bankruptcies. This procedure created portfolios in which the optional group of 10 stocks was widely followed while the six stocks drawn from the remaining 40 stocks were thinly followed. On average and depending on the market size, from 6 to 8 participants’ portfolios contained a given randomly selected stock but in no case did a stock appear in less than three participants’ portfolios.

For each stock, bids greater than or equal to the median bid were considered winners. This meant that a market participant could win (i.e., purchase) on some stocks in their portfolio but not necessarily all of those on which the participant bid. Winners of the auction purchased 1,000 shares in the company at a price equal to the next highest bid, consistent with a second-price, sealed-bid Vickery auction. This form of auction helps prevent the overpayment problem in which participants lose money. See Figure 2 for an example of the price determination. Each week, we calculate earnings for each stock as 1,000 times the difference between the price paid (i.e., the second price) and the Buy Back Price (consisting of the closing exchange price on the earnings announcement date for the actual company).

[Insert Figure 2 about here]

⁶ The students were randomly assigned six required stocks in order to avoid collusion. Each student had a different portfolio and matched only one stock with any other student.

Each period of trading took place in a separate week of regularly scheduled class. No bankruptcies occurred in the first and second periods of trading. Beginning in week three of the market, however, we manipulate the number of companies going bankrupt so that each week the number of bankrupt companies increases in a manner consistent with the schedule in Table 2. Participants generally were given no indication of how many or which companies would go bankrupt, however, one group in Market 1 was given advance notice each week regarding how many companies would go bankrupt.⁷

[Insert Table 2 about here]

Each week, participants received a portfolio sheet listing their 16 stocks along with certain financial indicators for the company and for the industry in which the company operates. The financial indicators include: change in revenue, change in net income, change in total assets, change in earnings per share, change in profit margin, change in total debt, last year's stock price, last year's industry average stock price, and the current year industry average stock price (See Appendix 1 for an example of a weekly stock pick sheet). Based on this information, the participant provided bids for the stocks based on what he/she thought this year's stock price would be (i.e., the Buy Back Price). The identities of the companies and the years for which the data were obtained (2004-2006)⁸ were concealed. When asked during the debriefing, no participant admitted to having looked for additional information on any company.

After the first week, the participants also received a results sheet displaying whether the participant "won" the bid on the shares from the previous week, the price

⁷ There was no difference in the market results for those who were told how many companies would go bankrupt compared to those who were not told how many. After a few periods it appears that participants in both groups were equally able to estimate the pattern of increasing bankruptcies.

⁸ We purposefully avoided using market data from years corresponding to recent market turmoil (i.e., early or late 2000's).

paid, the company's actual stock price, the earnings or loss for each stock they purchased, and the total earnings for the period (See Appendix 2 for an example of a weekly participant results sheet).⁹ The participant had positive earnings if the price paid for shares purchased was less than the Buy Back Price for the company shares (see figure 2 for an example). The participant had negative earnings if the price paid for shares purchased was more than the Buy Back Price. The participants who purchased the shares of a company that went bankrupt recognized a loss for the full amount paid on the shares times the 1,000 shares purchased as the actual stock price for the company is considered to be \$0.00 for the bankrupt company. Each week thereafter, the participant turned in the current week pick sheet, received an individual results sheet from the previous week, and received a new stock pick sheet for the next week (with a set of 16 companies from a new block of 50 as previously discussed). In addition to the individual results sheet, the weekly and total earnings for all of the participants were projected at the front of the class for all to review. The participants were only identified on the projection screen by a number.

Market 1: No Going Concern Opinions

Participants

Participants were 38 business majors enrolled in a freshman honors class and 34 students enrolled in a senior level accounting course at a major state university. The freshman honors student participants consisted of 23 females and 16 males. The senior level accounting student participants consisted of 19 females and 15 males. Of the senior level accounting student participants, there were 30 accounting majors; two accounting

⁹ Note that the GCO column and bankruptcy column in Appendix 2 were only included for Experimental Market Two.

and finance double majors; and two double majors in accounting and some other business school major. The honors students had not yet declared their specific business major.

The freshman honor students and the senior accounting students were treated as separate groups for purposes of running the markets. Therefore, when determining who “won” the bids on the company shares, there was no competition across groups. Since there are no differences in the market results across groups, the analyses of the hypotheses do not differentiate between the groups.

Participants in Market 1 submitted 6,969 bids resulting in 3,756 separate purchase events. The average bid was \$39.40 and the average price paid was \$43.48. Mean earnings was \$7.78 per share of stock. Of the 6,969 bids, 2,783 were placed on optional stocks and 4,186 were placed on the required stocks.¹⁰ Across the entire ten weeks and all participants, the correlation between the bids submitted by winners (losers) and the Buy Back Price, which also is the NYSE price, is 0.880 (0.577).

Market 1 Results

Data from Market 1 are used to test the first two hypotheses. To test H1, its corollary, and H2a, we use the price that participants paid for winning bids as a percentage of the Buy Back Price (the actual stock price for the company associated with the financial information provided to the participant). This measure, which we term the “scaled market price,” has two important qualities. First, it permits comparisons across stocks by scaling Market 1 prices to reflect differences in value between companies as captured by NYSE prices. Second, it provides a measure of how much Market 1 is

¹⁰ Some of the participants did not turn in stock sheets each week, which reduces the total bids placed for the required (and optional) stocks.

discounting the stock price. A ratio of 1.0 suggests that the auction price paid by our participants is equal to the NYSE price used to liquidate non-bankrupt stocks.¹¹

H1 predicts that in the absence of GCOs, the market will discount the stock price of all companies proportional to the number of bankruptcies. In contrast, H2 suggests that, over time, the discount will be greater than the economic predictions of H1. As shown in Panel A of Figure 3, the scaled market price visually decreases following week number two, consistent with our expectations. Recall that the bankrupting of companies began in week three and increased in number through week ten. In addition, Panel A of Table 3 shows that the progression of Market 1 scaled market prices roughly follows the economic expectation with the end point matching almost identically to the economic prediction of 78% of the actual company stock prices; this being consistent with 22% of the market going bankrupt in the final week. Indeed, the final scaled market price in period 10 of 0.783 does not differ ($p = 0.4970$) from the economic expectation (0.78). Power analysis suggests that this slight difference would not become statistically significant until the sample size increased from $n=354$ in the present study to $n > 3,000$. These results are consistent with H1 and not with H2.

[Insert Figure 3 and Table 3 about here]

In order to formally test H1 and its corollary, we regress the scaled Market 1 prices on the number of bankruptcies for the week and on a zero-one indicator variable that identifies particular stocks as bankrupt.¹² Recall that participants did not learn which company was bankrupt until after they had submitted their bids. Results appear in Table

¹¹ Ratios greater than four standard deviations are omitted from the analysis in order to eliminate influential outliers.

¹² Regressing scaled Market 1 prices on prior week bankruptcies produces qualitatively similar results. Additionally, results are unchanged when looking at the first half vs. the second half of the market.

4. Here, the intercept reflects approximately a 6.6 percent ($1 - .93378 = .06622$) overall discount in Market 1 prices from the liquidation price, reflecting the amount of earnings required by the participants. From this starting point, Market 1 prices decline by an average of 1 percent ($t = -7.96, p < 0.0001$; one-tailed test) for each additional bankruptcy, consistent with H1. As predicted by H1's corollary, the variable indicating whether the particular company went bankrupt is not significant ($t = 0.75, p = 0.4556$). This suggests the obvious result that without the information that the GCOs convey, the market does not (and cannot) adjust individual stock prices for bankruptcies.

[Insert Table 4 about here]

H2 predicts that increasing the number of unexpected bankruptcies will precipitate a lack of confidence so that (H2a) the decline in market prices will be greater than the proportion of companies going bankrupt, and/or (H2b) participants will exit the market. Contrary to expectations regarding prices, the regression results reported in connection with testing H1 suggest that the market decline of 1 percent per bankruptcy is less than, as opposed to greater than, the 2 percent that is expected (see Figure 1 for calculation of expectations). A *t*-test of whether mean differences between scaled market prices and economic predictions across the first five periods (mean difference = -0.058) compared to the last five periods (mean difference = 0.012) is not significant ($p > 0.99$) in the wrong direction suggesting that prices are higher than expected in later periods. This is shown by visual inspection of the data in Panel A of Figure 3 and Panel A of Table 3 which suggests that market prices for early periods are lower than economic predictions, but higher than economic predictions in later periods. Separate analysis limited to bids on required stocks produces similar conclusions. The data do not support H2a's prediction

that market prices will exhibit a lack of confidence brought on by bankruptcies without warning from the auditors.

Looking at Panel A of Table 3, one readily sees that, with the exception of period 10, winners do not adjust their bid prices for the number of bankruptcies while losers appear to over adjust. This lends credibility to the notion that risk preferences and confidence are not equal across all market participants. Therefore, we examine H2b's prediction that lack of confidence may show up in terms of market participation rather than price. Recall that each portfolio contained a list of ten stocks that were common to all portfolios in a given week and that the participants were given the option to bid or not to bid on that group of stocks. We note before examining market participation that the volume of bids placed on optional stocks, reported in Panel B of Table 3 does not appear to change over time and its correlation with the number of bankruptcies is not significant ($r = 0.25441$, $p = 0.4781$).

H2b is tested by looking at the number of participants who submit a bid on at least one optional stock during each week rather than the total number of bids placed. That is, it is possible for some participants to exit the market because of waning confidence while those who remain may actually increase their bidding activity. Table 5 shows that the number participating by submitting at least one bid on an optional stock during the first five weeks of Market 1 ($n = 268$) decreases significantly ($\chi^2 = 15.71$, $p < 0.0001$) compared to the second five weeks ($n = 228$, difference = 40).¹³ In this case, participation across the ten weeks is significantly and negatively correlated with the number of

¹³ Because the number participating constitutes a numerical count, we use negative binomial regression to analyze participation differences across first and second halves of the market.

bankruptcies (Pearson $r = -0.839$, $p = 0.0024$; Spearman $r = -0.820$, $p = 0.0036$). This result is consistent with H2b.

[Insert Table 5 about here]

In summary, without reliable GCOs, high numbers of unexpected bankruptcies result in a loss of value to all firms in the market, and ultimately to a reduction in the number of individuals willing to participate in the market. Nevertheless, the market is surprisingly robust and market prices remain remarkably close to normative economic expectations.

Market 2: Going Concern Opinions

The task for Market 2 is identical to the task for Market 1 except for the inclusion of GCOs and the procedure for companies that went bankrupt. Additionally, as shown in Appendix 2, the results sheet included information related to whether the company received a GCO and whether it went bankrupt (note that the participants were told prior to submitting stock price bids which companies received a GCO).

Starting with the third week, GCOs were introduced into the list of companies based on the schedule presented in Table 6. In order to identify which companies would receive GCOs, we first calculated Altman Z scores for all companies. We then identified those companies that the Z score suggests are distressed (i.e., Z score < 1.83). From the group of distressed companies, a pool of potentially bankrupt firms was identified by randomly selecting the appropriate number of firms for that week to receive a GCO and an equal number not to receive a GCO but which are financially stressed. For instance, in week four we create a group consisting of four distressed companies: two that receive a GCO and two that do not receive a GCO but are financially stressed. From this group of

potentially bankrupt firms, we randomly select one-half to go bankrupt and one half to survive. Therefore, there is consistently a 50% chance that a GCO company will go bankrupt. From weeks three through six, only the pool of distressed companies has the chance to go bankrupt.

[Insert Table 6 about here]

Determining which companies go bankrupt was based on a random draw that was completed prior to class each week. In addition, and consistent with markets in the field and our earlier Market 1, companies that are perceived to be healthy sometimes go bankrupt due to fraud, or financial statement misstatements that represent the company as healthy when in reality it is masking a financially stressed company. Thus, beginning in week seven, we add the chance that “healthy” companies could also go bankrupt. The probability of a company not previously identified as financially stressed going bankrupt increased from one out of 42 in week seven to seven out of 42 in week 10.¹⁴

Participants

Market 2 participants consisted of 96 students enrolled in a senior level accounting course at a major state university. There were 50 females and 46 males. Of those who responded to the post experiment question on their major area of study, there were 60 accounting majors; 15 accounting and finance double majors; 17 double majors in accounting and some other business school major; one triple major in accounting, finance and some other business school major; and one finance major.

The participants were enrolled in one of two different sections of the same course. In order to keep information from being passed between sections that could impact their

¹⁴Similar to the process for determining which financially stressed companies went bankrupt, the bankruptcy of a financially healthy company was determined by a random draw from the 42 companies each week that were not one of the eight companies in the financially stressed pool.

performance, the sections were treated as separate groups for purposes of running the market. Therefore, when determining who “won” the bids on the company shares, there was no competition across groups. Since there is no difference across groups in the dependent measure, the analyses of the hypotheses do not differentiate between the groups.

Participants in Market 2 submitted 8,546 bids resulting in 4,694 separate purchase events. The average bid was \$40.66 and the average price paid was \$44.29. Mean earnings was \$6.61 per share of stock. Of the 8,546 bids, 3,098 were placed on optional stocks and 5,448 were placed on the required stocks.¹⁵ Across the entire ten weeks and all participants, the correlation between the bids submitted by winners (losers) and the Buy Back Price, which also is the NYSE price, is 0.869 (0.623). A total of 347 bids were placed on the stocks of companies receiving a GCO.

Market 2 Results

H3 predicts that in the presence of GCOs, the market will discount the stock price for those companies receiving a GCO in proportion to its reliability (i.e., in the present study companies receiving a GCO have a 50% chance of going bankrupt). Therefore, the scaled price paid for GCO companies should be approximately half that paid for non-GCO companies. As shown in Panel B of Figure 3, the price paid for the shares of each company receiving a GCO are discounted while the price paid for the shares of companies not receiving a GCO are not discounted. Visual inspection of Panel A in Table 7 results in the same conclusion—that the scaled market price paid for GCO stocks is approximately half or less than that of non-GCO stocks. Separate *t*-tests for each week

¹⁵ Some of the participants did not turn in stock sheets each week, which reduces the total bids placed for the required (and optional) stocks.

show no significant differences for eight of the ten weeks between one-half of the scaled market prices for non-GCO stocks and the scaled market prices for GCO stocks. Indeed, in the final period, the mean scaled market price of non-GCO stocks is 0.819 of which one-half is 0.4095. This is less than 2 cents above the scaled market price for GCO stocks of 0.391. We note that in cases where the prices diverge from economic predictions, the market for GCO company shares is discounted more (as opposed to less) than the expected 50 percent. These results are consistent with H3.

[Insert Table 7 about here]

H4 predicts that in the presence of GCOs, the market will not discount the stock price of companies that do not receive GCOs, except in proportion to the number of bankrupt companies that are not identified as going-concerns. Table 8 reports the economic prediction for the scaled market prices of non-GCO stocks and the mean scaled market prices for these same stocks observed in Market 2. Across the 10 weeks, an equal number of mean scaled market prices are above and below the economic prediction (see the “Difference” column in Table 8). Furthermore, the average difference between the economic predictions and the scaled market prices is just 0.5 cents and is not significant ($n = 4,476$; $p = 0.2047$). The data strongly support H4.

[Insert Table 8 about here]

H5 predicts that markets with GCOs will experience a smaller decrease in confidence than markets without GCOs. This should manifest itself in (H5a) a smaller decline in stock prices, and (H5b) a smaller decrease in the number of participants in the market. Recall that in Market 1, a lack of confidence did not produce prices that are significantly below economic expectations while at the same time, the number of

participants willing to bid on optional stocks declined as the number of bankruptcies increased. This decline in participation, as shown in Table 5, is consistent with a growing lack of confidence in Market 1. Likewise, Market 2 analyses of H4 reported immediately above, show that market prices do not diverge significantly from economic predictions suggesting a similar conclusion to Market 1 that a lack of confidence does not affect price, thus not supporting H5a.

Table 5 also shows that the number of participants submitting at least one bid on an optional stock during the first five weeks of Market 2 ($n = 303$) decreases but not significantly ($\chi^2 = 2.46, p = 0.1166$) compared to the second five weeks ($n = 277$, difference = 26). Whereas the number of participants bidding on optional stocks across the ten weeks are significantly and negatively correlated with the number of bankruptcies in Market 1, in Market 2 this correlation is not significant (Pearson $r = -0.472, p = 0.1679$; Spearman $r = -0.393, p = 0.2609$). We thus find results consistent with a significant lack of confidence in Market 1 but not in Market 2.¹⁶

IV. Discussion

Before discussing the results, we note that the study uses experimental methods in which markets are conducted in a laboratory setting rather than in a field setting. This has the advantage of providing a high level of control over the information that is available to market participants. At the same time, we urge caution when generalizing the results to other settings and populations. For instance, we limit our study to unexpected

¹⁶ Comparisons between markets must be made with care because random assignment to GCO treatment did not occur across semesters. Nevertheless we combine the data in an exploratory manner and observe that the interaction between market half (periods 1-5 versus 6-10) and market (1 versus 2) is not significant ($\chi^2 = 0.84, p = 0.3601$).

bankruptcies of which recent experience provides some motivation for this limitation. To the extent that markets can obtain information to help them predict company failures, we assume the market appropriately prices the securities. We note in regards to this that in our study, we liquidate the participants' holdings using the NYSE price on the earnings announcement date associated with the information sheets they received. As a result, the participants were provided information regarding the financial condition of each company and they were compensated for using it appropriately. We further note that the correlation between market bids and the NYSE price is quite high suggesting that the participants took the task very seriously and that the results should generalize to the field.

In general, we find that (1) prices in markets that experience very high numbers of unexpected bankruptcies reflect economic predictions with a surprisingly high level of accuracy, (2) that the markets simply do not crash despite tremendous uncertainty, and (3) that any lack of market confidence that exists is not reflected in price (i.e., investors remain price protected) but rather lack of confidence results in fewer individuals willing to participate. Within this environment and to the extent that the GCO reliably identifies companies that will go bankrupt, the effect of this uncertainty is isolated to only these companies. However, to the extent that the GCO does not identify failing companies, the stocks of all companies are priced to reflect that risk. Thus we conclude that the economic benefits of strengthening the effectiveness and reliability of the GCO potentially are substantial. Likewise, the economic consequences of less reliable GCOs are also potentially enormous. Prior studies suggest that there is considerable room for improvement in that only about half of the firms that go bankrupt had a going concern modification in the immediately preceding audit report.

We should note that the GCO as implemented in our study was only 50 percent reliable in that only half of those flagged as a going concern actually failed. This meant that some companies who did not go bankrupt experienced a large reduction in their stock price as a result of receiving the GCO. Investors who purchased these shares ultimately earned money. On the other hand, because investors priced the stocks of GCO companies with the knowledge that some would not go bankrupt, when they did fail the investors suffered additional losses than if the GCO had been more reliable. That is, the ability of the GCO to reliably identify failing companies is vital to avoiding spurious gains and losses.

We note that in neither market did a lack of confidence affect price, a finding that is contrary to what we predicted. Likewise, bidding volume did not reflect changes in confidence in either market. Confidence did, however, impact the willingness of individuals to participate. In retrospect, an individual who experiences a lack of confidence will exit the market whereas the remaining participants see additional opportunity for profits as long as the pricing is stable. During the debriefing, some of the participants expressed a similar sentiment to what is sometimes heard in the financial press that the only way to make money is to play and that there is money to be made in any kind of market. Our results are suggestive that presumably by reducing overall uncertainty, the GCO implemented in Market 2 may have prevented some of the exodus.

The economic environment in 2008-2009 reflects a great deal of uncertainty associated with unexpected company failures and the revelations regarding “toxic” assets for which the auditors’ reports provided very little warning. Prior to this period, the results from the current study would be largely academic in nature—suppose large

numbers of companies failed unexpectedly. Today, our results represent important data on a question that otherwise is woefully lacking data. Granted that in the field there is a great deal more going on than just a lack of warning from the auditors, but the question must be asked what would be different if policies were in place to help auditors provide a better signal. The results of the present study suggest that investors are able to correctly price the securities of companies despite one in five unexpected failures (a level that even in 2008-2009 represents tremendous uncertainty) given they can get a reliable GCO. Our results indicate that improved effectiveness of the current GCO might benefit investors, distressed companies that ultimately do not go bankrupt, and the broader market.

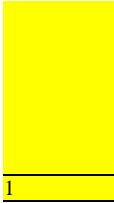
Although this research was not designed to determine how the GCO auditor judgment process could be improved, we conjecture a few possibilities. Perhaps the bar one must reach in order to receive a going concern modification needs to be rethought. Or, perhaps its very nature should be re-evaluated. It is likely that the market would benefit from real-time GCOs rather than getting them just once a year. Our desire is that the results of the present study will motivate additional research into ways to improve the current state of auditing.

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Appendix 1
Sample Draft Experimental Materials
Weekly Stock Pick Sheet



Investment Project

Name:

Idno:

1

Week:

Required Bids

Company	Change in Revenue		Change in Net Income		Change in Total Assets		Change in Earnings per Share		Change in Profit Margin		Change in Total Debt		Last Year Stock Price	Last Year Stock Price	This Year Stock Price	This Year Stock Price
	Company	Industry Average	Company	Industry Average	Company	Industry Average	Company	Industry Average	Company	Industry Average	Company	Industry Average	Company	Industry Average	Industry Average	Bid
24419910	9.4%	16.8%	2.9%	-0.5%	17.0%	17.4%	4.6%	-7.5%	-0.4%	-1.0%	19.8%	17.2%	70.21	38.83	31.61	_____
33793210	-3.7%	7.8%	-2.6%	33.6%	2.5%	5.8%	-0.4%	205.6%	0.1%	1.8%	1.5%	3.4%	41.22	31.62	33.52	_____
42307410	-3.0%	23.9%	-14.2%	18.0%	-7.9%	15.4%	-37.6%	-141.4%	-1.0%	-0.4%	-3.6%	14.9%	37.39	33.87	34.54	_____
52605710	32.0%	25.1%	43.3%	43.2%	36.8%	26.5%	42.0%	14.4%	0.8%	1.2%	42.6%	25.2%	56.35	96.02	85.10	_____
91131210	16.4%	-7.6%	16.1%	6.4%	6.6%	-7.8%	18.0%	-100.5%	0.0%	1.1%	10.2%	-9.5%	74.01	44.58	37.39	_____
74251V10	8.5%	1.9%	11.3%	23.0%	11.6%	11.3%	35.7%	17.5%	0.3%	1.4%	12.2%	11.1%	41.76	35.16	43.68	_____

Optional Bids

Company	Change in Revenue		Change in Net Income		Change in Total Assets		Change in Earnings per Share		Change in Profit Margin		Change in Total Debt		Last Year Stock Price	Last Year Stock Price	This Year Stock Price	This Year Stock Price
	Company	Industry Average	Company	Industry Average	Company	Industry Average	Company	Industry Average	Company	Industry Average	Company	Industry Average	Company	Industry Average	Industry Average	Bid
77434110	17.5%	15.6%	31.6%	54.7%	9.3%	8.5%	31.8%	28.6%	1.2%	1.7%	26.4%	7.9%	38.05	43.55	46.62	_____
94974610	19.3%	19.8%	9.4%	14.6%	12.6%	14.9%	9.6%	18.1%	-1.7%	-0.7%	13.1%	15.4%	61.46	29.26	29.43	_____
92904210	41.1%	17.3%	-9.0%	7.3%	17.8%	20.7%	-12.2%	-99.3%	-10.7%	-1.7%	10.6%	24.9%	68.70	28.89	29.82	_____
15670010	1.3%	6.7%	-0.8%	18.9%	-0.4%	5.7%	4.1%	51.0%	-0.3%	0.7%	-5.5%	4.1%	33.49	21.26	21.97	_____
38480210	9.4%	6.9%	20.7%	46.1%	10.6%	3.3%	21.7%	45.2%	0.6%	1.4%	10.4%	-2.6%	60.69	60.69	189.15	_____
80660510	14.9%	12.8%	-128.4%	27.8%	-2.8%	7.8%	-117.9%	-5.5%	14.3%	1.7%	-3.3%	6.1%	20.31	19.10	20.91	_____
73157210	13.3%	12.0%	61.7%	28.0%	13.3%	14.2%	57.4%	72.5%	2.5%	0.9%	-1.1%	35.7%	44.11	22.15	22.05	_____
74331510	3.8%	-3.9%	-15.5%	-17.5%	10.0%	-5.3%	-8.5%	-50.0%	-2.2%	-0.9%	6.3%	-6.5%	83.65	49.28	47.86	_____
82880610	19.3%	17.3%	38.7%	7.3%	-4.3%	20.7%	-22.8%	-99.3%	2.0%	-1.7%	-3.5%	24.9%	64.39	28.89	29.82	_____
37033410	3.5%	12.2%	-12.1%	11.9%	0.8%	13.2%	-8.7%	1.4%	-1.7%	0.0%	0.4%	10.1%	47.21	33.79	29.32	_____

**Appendix 2:
Sample Draft Experimental Materials
Weekly Participant Result Sheet**

Note: The GCO and Bankrupt columns were only included in Experimental Market Two. All other information on the form was the same across experimental markets.

Data

Student Name:

IDno	Week	Stock	Company	Bid	WinnerYN	PricePaid	ThisPrice	Earnings	GCO	Bankrupt
1	1	1	97694022				33.43	-		
1	1	2	76224758				41.74	-		
1	1	3	42728609				42.38	-		
1	1	4	32596310				39.26	-		
1	1	5	31604564				48.03	-		
1	1	6	30372833				56.39	-		
1	1	7	67389280				44.73	-		
1	1	8	98012721				72.86	-		
1	1	9	76924246				88.99	-		
1	1	10	23332787				34.38	-		
1	1	11	41646838				73.30	-		
1	1	12	69580847				19.57	-		
1	1	13	63127179				56.10	-		
1	1	14	64371219				110.00	-		
1	1	15	70480923				81.84	-		
1	1	16	40185157				51.75	-		

Total:

Figure 1
Market Expectations

Formulas for market expectations:

Market 1: Market without GCO (Panel A)
 $(TC_o - BC_{o_i}) / (TC_o)$

Market 2: Market with GCOs (Panel B)
 $[(((TC_o - GCO_i) - (BC_{o_i} - (GCO_i * .5))) / (TC_o - GCO_i)) * (TC_o - GCO_i) + (GCO_i * .5)] / TC_o$

Where: TC_o = Total number of companies per week = 50

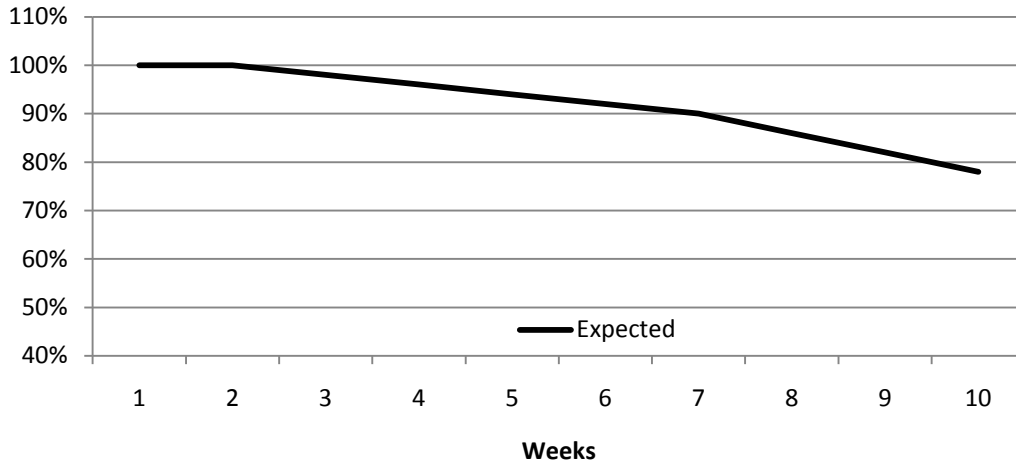
GCO_i = Number of going concern opinions for week i , $i = 1-10$

BC_{o_i} = Number of bankrupt companies for week i , $i = 1-10$

Week	Bankruptcies	GCOs	Market 1	Market 2	Market 2	Market 2
			NoGCO	NoGCO	GCO	Total
1	0	0	100%	100%	50%	100%
2	0	0	100%	100%	50%	100%
3	1	1	98%	99%	50%	98%
4	2	2	96%	98%	50%	96%
5	3	3	94%	97%	50%	94%
6	4	4	92%	96%	50%	92%
7	5	4	90%	93%	50%	90%
8	7	4	86%	89%	50%	86%
9	9	4	82%	85%	50%	82%
10	11	4	78%	80%	50%	78%

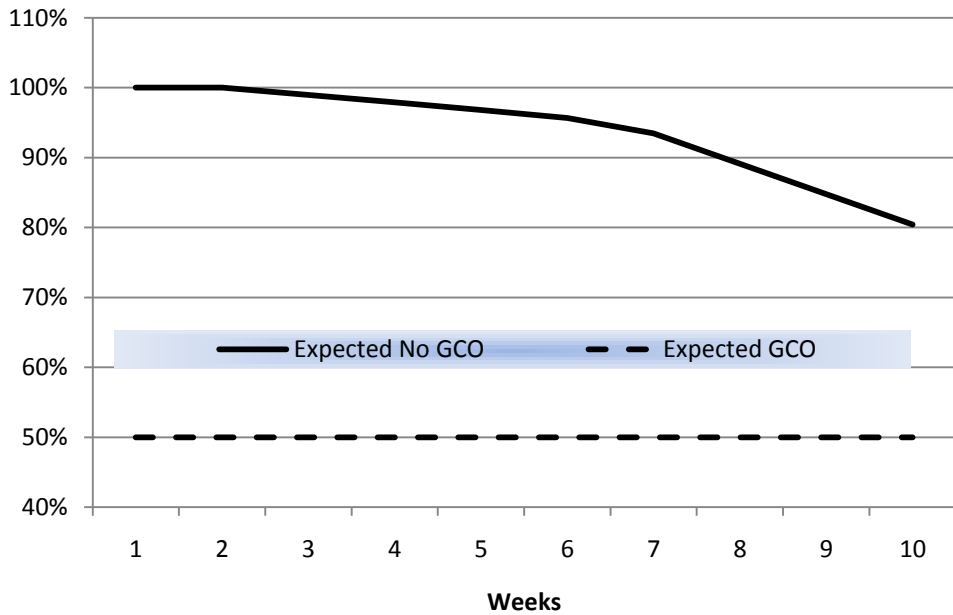
Panel A

Market 1: Expected Market Price without GCOs
Stock Price Bids as a Percentage of the Buy Back Price



Panel B

Market 2: Expected Market Price with GCOs
Stock Price Bids as a Percentage of the Buy Back Price



Note: Buy Back Price = the actual stock price for the given company information.
GCO = Going Concern Opinion.

Figure 2
Example of the Determination of price paid for shares

The table below depicts how the price paid for the shares of Company A is calculated assuming five people bid on the shares for Company A. Those whose bids are in the top half purchase 1,000 shares at a price equal to the next highest bid.

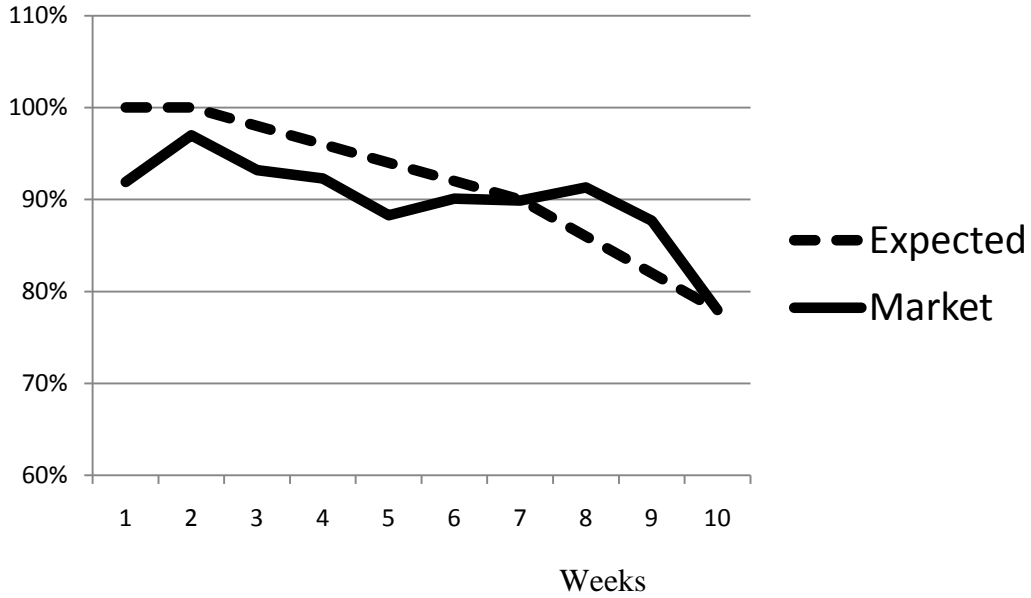
Company	Participant	Bid (\$ per share)	Price paid (\$ per share)
A	2	15	14
A	4	14	13
A	1	13	12
A	5	12	
A	3	11	

The table below depicts the earnings for the shares purchased in the table above, assuming a Buy Back Price of \$13/share and 1,000 shares purchased.

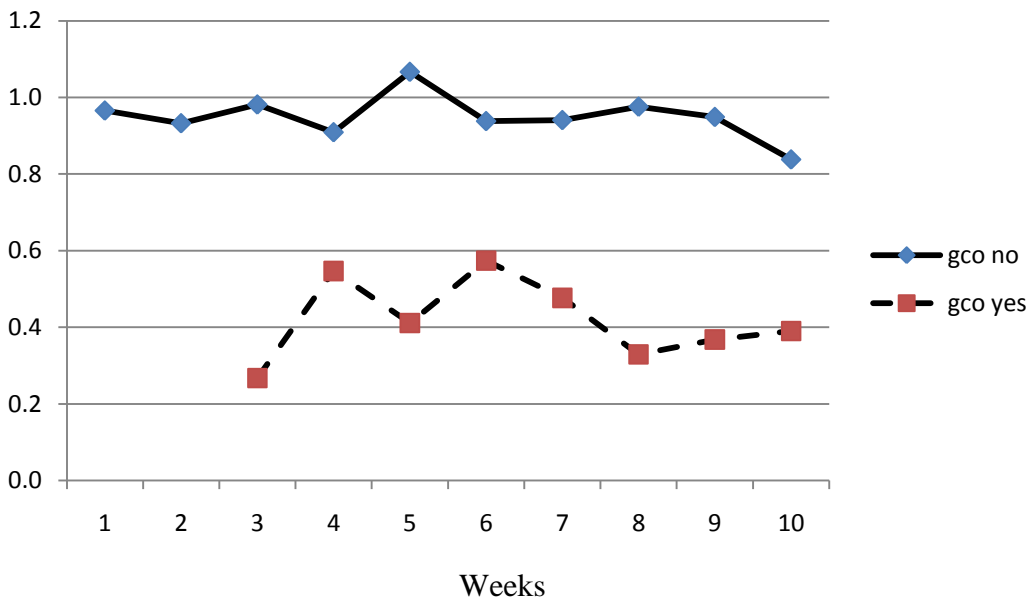
<u>Company</u>	<u>Participant</u>	<u>Price paid (\$ per share)</u>	<u>Buy Back Price</u>	<u>Earnings / share</u>	<u>Total Earnings</u>
A	2	\$14	\$13	(\$1)	(\$1,000)
A	4	\$13	\$13	\$0	\$0
A	1	\$12	\$13	\$1	\$1,000

Figure 3
Actual Stock Price bids as a Percentage of the Buy Back Price

Panel A: Market 1 (without GCOs)



Panel B: Market 2 (with GCOs)



Notes: Scaled market prices = Market 1 Price Paid divided by the NYSE (Buy Back) Price. GCO = Going Concern Opinion.

Table 1
Major Stock Market Declines

<u>Date</u>	Dow Jones Industrial <u>Average</u>	<u>Change</u>	<u>Percent Change</u>	<u>Cumulative Percent</u>
July 1, 1929	343.45			
July 1, 1930	204.90	(138.55)	-40.34%	
July 1, 1931	96.61	(108.29)	-52.85%	-71.87%
April 1, 1932	42.84	(53.77)	-55.66%	-87.53%
July 1, 1932	71.56	28.72	67.04%	-79.16%
January 2, 1937	167.82			
October 1, 1937	98.95	(68.87)	-41.04%	
October 2, 1972	1,020.02			
October 2, 1973	850.86	(169.16)	-16.58%	
July 1, 1974	607.81	(243.05)	-28.57%	-40.41%
October 2, 1974	616.24	8.43	1.39%	-39.59%
April 1, 1987	2,418.53			
October 1, 1987	1,938.83	(479.70)	-19.83%	
January 2, 2002	10,403.9404			
April 2, 2002	9,243.2598	(1,160.68)	-11.16%	
October 9, 2007	14,164.5303			
October 10, 2008	8,451.1904	(5,713.34)	-40.34%	

Table 2
Market 1 Design

<u>Week</u>	Number Bankrupt Companies (out of 50)	Probability of <u>Going Bankrupt</u>
1	0	0%
2	0	0%
3	1	2%
4	2	4%
5	3	6%
6	4	8%
7	5	10%
8	7	14%
9	9	18%
10	11	22%

Table 3
Market 1 Activity

<u>Week</u>	<u>Scaled Bids on Required Stocks</u>		<u>Scaled Bids on Optional Stocks</u>		<u>All Stocks</u>	
	<u>Winners</u>	<u>Losers</u>	<u>Winners</u>	<u>Losers</u>	<u>Scaled Price</u>	<u>Economic Prediction*</u>
<i>Panel A: Mean Scaled Bids and Scaled market prices</i>						
1	0.985	0.736	0.947	0.629	0.886	1.00
2	1.037	0.772	1.061	0.663	0.960	1.00
3	0.997	0.788	0.989	0.669	0.932	0.98
4	1.006	0.734	1.001	0.566	0.923	0.96
5	0.923	0.635	1.048	0.567	0.883	0.94
6	0.985	0.641	1.016	0.423	0.901	0.92
7	1.014	0.777	0.911	0.468	0.865	0.90
8	0.998	0.649	1.045	0.437	0.916	0.86
9	0.937	0.611	1.019	0.458	0.877	0.82
10	0.902	0.555	0.805	0.333	0.772	0.78
<i>Panel B: Volume</i>						
1	235	191	123	114	358	
2	235	196	147	125	382	
3	235	185	158	142	393	
4	233	194	144	133	377	
5	233	199	145	130	378	
6	230	190	151	140	381	
7	207	174	137	119	344	
8	237	195	162	152	399	
9	231	177	159	141	390	
10	219	190	135	126	354	

*Theoretically, market participants require some discounting from the economic prediction in order to earn a normal profit. Based on the scaled market prices for rounds 1 through 3 (i.e., before the participants were aware of the possibility that companies would go bankrupt), this amount appears to be about 7.3 percent based on the average discount across these three periods. The table presents the economic prediction without taking profit requirements into account.

Note that more winners occur than losers because prices and ties at the median are counted as winners. That is an odd number of bids on any particular stock produced one more winner than losers. The volume for scaled market prices includes only winners.

Table 4
Regression Using Market 1 Scaled market price as Dependent Variable

<u>Variable</u>	Parameter <u>Estimate</u>	<u>t-statistic</u>	<u>p-value</u>
Intercept	0.93378	138.96	< 0.0001
Number of Bankrupt Companies	-0.01001	-7.96	< 0.0001
Company Bankrupt Indicator	0.01193	0.75	0.4556

Table 5
Participation in Optional Stocks

	<u>Week</u>	Market 1 Number <u>Participating</u>	Market 2 Number <u>Participating</u>
First half:	1	54	60
	2	50	58
	3	57	70
	4	56	54
	5	51	61
		268	303
Second half:	6	49	62
	7	46	49
	8	48	60
	9	47	51
	10	38	55
		228	277
Decrease		40	26
χ^2		15.71	2.46
<i>p</i> -value		< 0.0001	0.1166

Table 6
Market 2 Design

<u>Week</u>	<u>Pool of Stressed Companies</u>			<u>Other</u> <u>Bankruptcies</u>	<u>Total</u> <u>Bankruptcies</u>
	<u>non-GCOs</u>	<u>GCOs</u>	<u>Bankruptcies</u>		
1	-	-	0	-	0
2	-	-	0	-	0
3	1	1	1	-	1
4	2	2	2	-	2
5	3	3	3	-	3
6	4	4	4	-	4
7	4	4	4	1	5
8	4	4	4	3	7
9	4	4	4	5	9
10	4	4	4	7	11

GCO = Going concern opinion

Note: The bankruptcies from the stressed companies are randomly selected from the non-GCOs and the GCOs. Likewise, in periods 7-10, other bankruptcies are randomly selected from the remaining 42 companies {i.e., $50 - (4 \text{ GCO} + 4 \text{ non-GCO}) = 42$ }.

Table 7
Market 2 Activity

<u>Week</u>	<u>Non-GCO Stocks</u>			<u>GCO Stocks</u>		
	<u>Scaled Bids</u> <u>Winners</u>	<u>Scaled Bids</u> <u>Losers</u>	<u>Scaled</u> <u>Price</u>	<u>Scaled Bids</u> <u>Winners</u>	<u>Scaled Bids</u> <u>Losers</u>	<u>Scaled</u> <u>Price</u>
<i>Panel A: Mean Scaled Bids and Prices</i>						
1	1.023	.700	0.957	-	-	-
2	1.015	0.716	0.935	-	-	-
3	1.098	0.738	1.019	.0452	0.090	0.268
4	0.968	0.675	0.900	0.805	0.115	0.475
5	1.069	0.790	1.009	0.609	0.018	0.411*
6	0.964	0.692	0.909	0.774	0.079	0.476
7	0.999	0.655	0.924	0.511	0.092	0.371
8	1.023	0.677	0.954	0.445	0.046	0.274*
9	1.057	0.682	0.946	0.667	0.071	0.368
10	0.917	0.490	0.819	0.533	0.078	0.391
<i>Panel B: Volume</i>						
	<u>Winners</u>	<u>Losers</u>	<u>Total</u>	<u>Winners</u>	<u>Losers</u>	<u>Total</u>
1	483	415	898	-	-	
2	481	407	888	-	-	
3	478	422	900	8	5	13
4	440	363	803	16	7	23
5	430	377	807	26	14	40
6	452	364	816	36	25	61
7	430	336	766	33	20	53
8	446	376	822	32	18	50
9	424	333	757	26	17	43
10	412	330	742	41	23	64

*The mean scaled market price for GCO stocks is significantly different (alpha = 0.05) than one-half the mean scaled stock price for non-GCO companies.

Table 8
Market 2 Comparison of Scaled market prices for
Non-GCO Stocks to Economic Predictions

<u>Week</u>	<u>Number of GCOs</u>	<u>Number of Non-GCO Stocks</u>	<u>Number Of Non-GCO Predicted to Go Bankrupt</u>	<u>Economic Prediction of Scaled market price</u>	<u>Mean Scaled market prices</u>	<u>Difference</u>
1	0	50	0.0	1.000	0.957	-0.043
2	0	50	0.0	1.000	0.935	-0.065
3	1	49	0.5	0.990	1.019	0.029
4	2	48	1.0	0.979	0.900	-0.079
5	3	47	1.5	0.968	1.009	0.030
6	4	46	2.0	0.957	0.909	-0.059
7	4	46	3.0	0.935	0.924	-0.033
8	4	46	5.0	0.891	0.954	0.063
9	4	46	7.0	0.848	0.946	0.098
10	4	46	9.0	0.804	0.819	<u>0.015</u>
Mean						-0.005

Note: The overall mean difference of -0.005 is not significantly different than zero (n = 4,476; $p = 0.2047$).
